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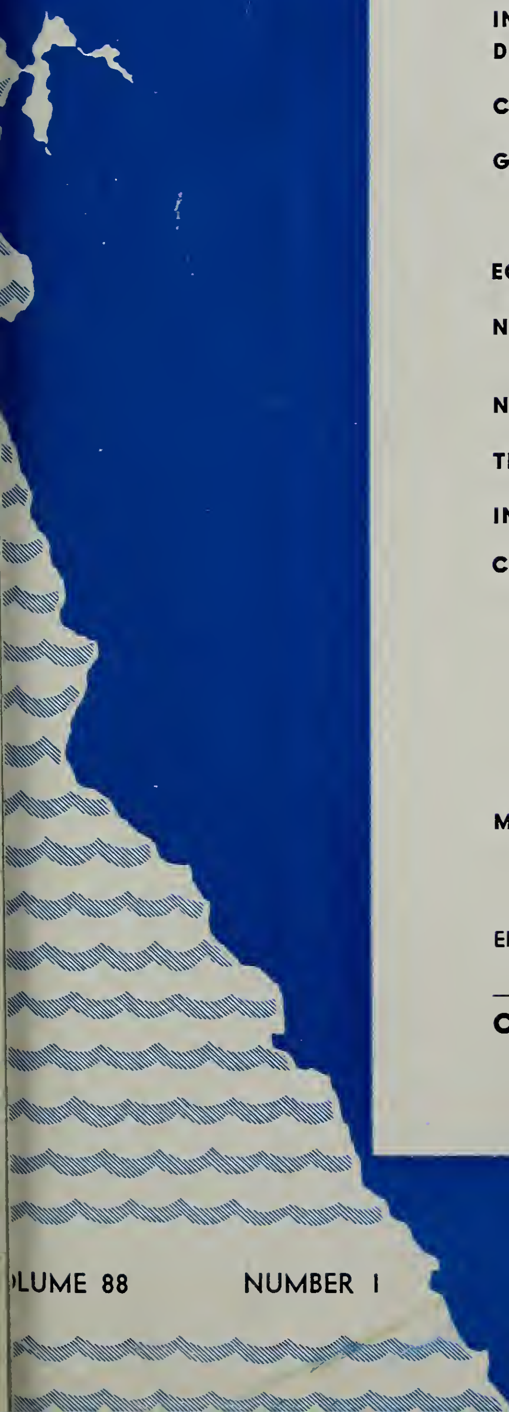

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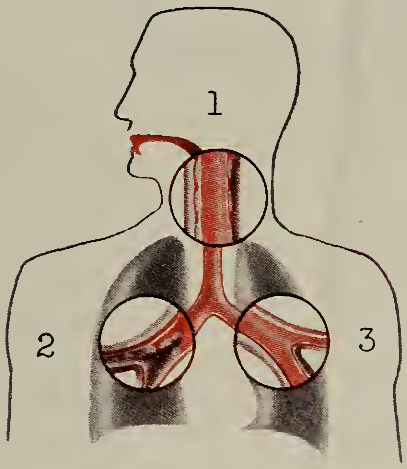

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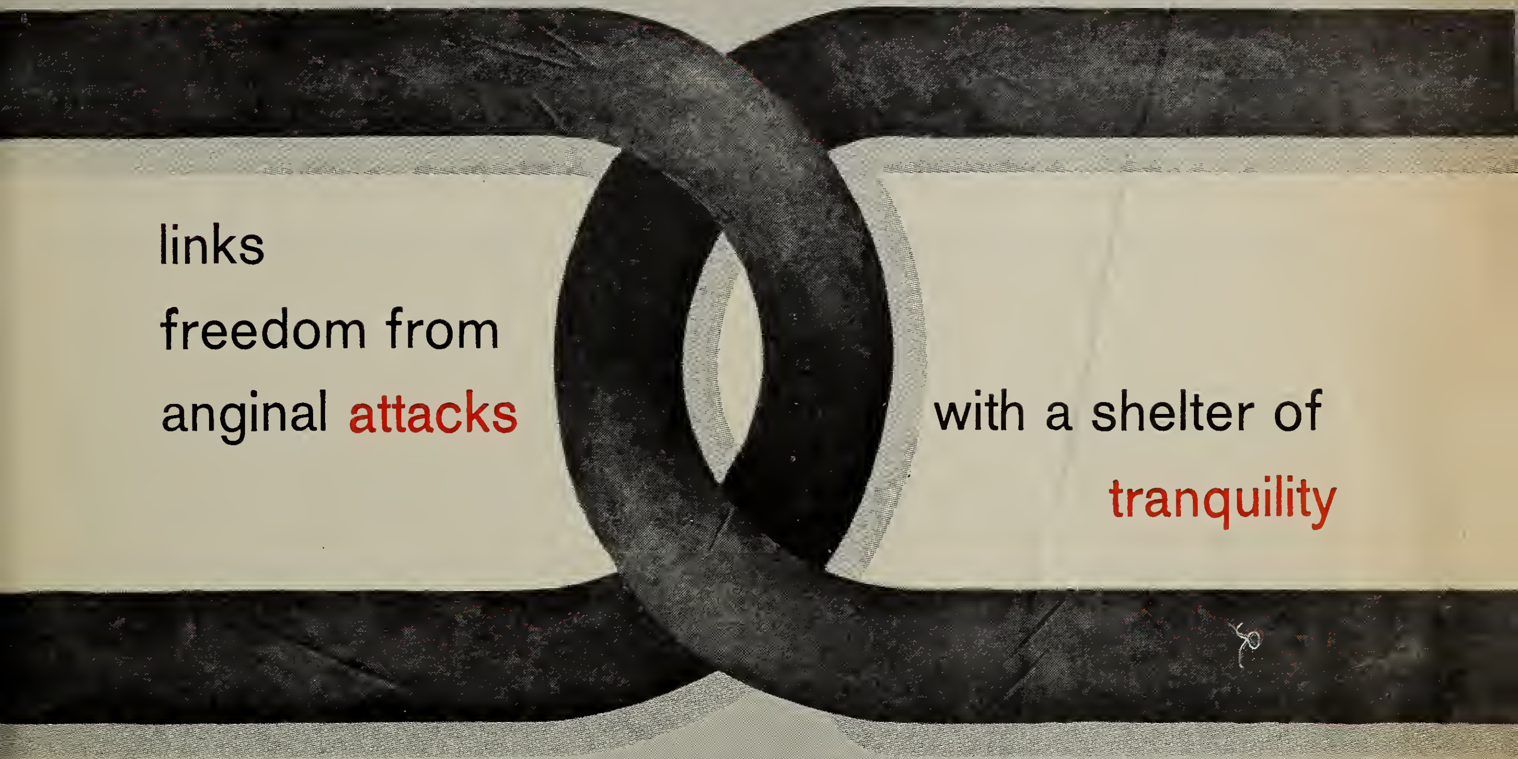

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1. Waldman, S., and Pelner, L.: Am. Pract. & Digest Treat. *8*:1075 (July) 1957.
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Powers to Keynote Bakersfield Conference on Rural Health

Lieutenant Governor Harold J. Powers will keynote the opening session of the fourth annual California Conference on Rural Health at the Bakersfield Hacienda, January 31. The theme of the conference, sponsored by the California Rural Health Council, is "New Horizons in Rural Health." All physicians are invited to attend.

The two-day conclave will attract some 350 medical, farm, PTA, school and public health leaders who will discuss a wide variety of topics, including:

Farm Chemicals and Poisons.

Transmission of Animal Diseases to Humans (featuring a special film on encephalitis).

A Young People's Panel on Health Care.

Community Health Councils—How and Why?

Better Dental Health for Rural Areas.

On additional topics, physician speakers are:

Dr. Richard Kloss, Paradise, "New Horizons for Our Senior Citizens;" and Dr. J. Harold Williams, Berkeley, "Treatment of Farm Chemicals and Poisons."

Presenting a "live clinic" on what is a good physical examination will be three Bakersfield doctors: Dr. John L. Forney, Dr. C. E. Stilgenbauer, and Dr. T. V. Reese. Dr. Robb Smith, Orange Cove, chairman of the CMA's Committee on Rural and Community Health, will emcee the session.

Aubrey D. Gates, Little Rock, Arkansas, executive director of the AMA's Council on Rural Health, will moderate a Friday evening "Crackerbarrel Session" and will summarize the conference at the concluding session on Saturday, February 1.

Mrs. Tony Patch, of the California Congress of Parents and Teachers, is chairman of the program committee. Chairman of the finance committee is Bob King of the California Farm Bureau Federation. Dr. John C. Dement of the State Department of Public Health heads the evaluation committee. Glenn Gillette of CMA is conference chairman.

Family Physician May Help Prevent Mental Illness

"Mood-altering drugs" combined with good nutrition may help prevent mentally ill patients from being committed to mental hospitals, a Michigan psychiatrist has stated.

Writing in the November 30 *Journal of the American Medical Association*, Dr. John T. Ferguson, Traverse City, Michigan, said general practitioners "may well take the lead in preventive psychiatry" through the use of drugs and good nutrition and the practice of the art of medicine.

He reported on the use of various neuropharmacological agents among patients with chronic mental illness at Traverse City State Hospital. The study has been conducted for four years.

In that time the new drugs, "together with the art of medicine as practiced by family doctors," have brought about many changes in the patients and the hospital.

The number of wards for disturbed patients has been reduced from four to one and the number of open wards has been increased from three to four. The housekeeping is excellent, the nursing care has improved, and shock, sedation, and seclusion have been practically eliminated. The patients have taken a new interest in life and the atmosphere of the wards has become a happy one, although the number and type of personnel remains the same.

At the start of the program, only tranquilizers were used, but it was found that they helped only the overactive patients. Then analeptics were given to the more repressed patients. Eventually combinations of these drugs were given.

They produced what may be called a "deep-change" in the patients, Dr. Ferguson said. It is a change within the patient that enables him to respond to other treatment methods and to participate in a rehabilitative program.

The combination of tranquilizers and analeptics was especially effective in confused, disoriented, and mildly overactive elderly patients, although the reasons for it are not understood, he said. The improvement does, however, give the hope that further research and newer drugs will soon make it possible for doctors to lessen, control, and "even prevent mental changes now associated with senility," Dr. Ferguson added.

Early in the program a direct parallel was noted between the physical well-being of patients receiving drugs and their rate and degree of improvement. Therefore, all medical and surgical problems of the patients were found and treated.

In addition, special diets and extra feedings high in minerals and vitamins were begun. Patients who had reached a "plateau" in improvement on drugs alone improved further when they were given supplementary diets. This was especially marked among elderly patients.

As the patients became more manageable, the attitude of the staff also changed. This brought about better understanding and more considerate treatment, which in turn benefited the patients.

In conclusion, Dr. Ferguson pointed out that the drugs by themselves or even when incorporated into a total hospital program will not empty the mental hospitals of the country. However, "by combining them with nutritional therapy, family physicians may hope to prevent commitment of mentally ill patients encountered in their home and office practices."

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18	2-42 days	3-6 Gm.	17	1	0	0	None, 16 Dizziness, 1 Slight nausea, 1
13	1-42 days	2-6 Gm.	8	1	3	1	None, 12 Nervousness, 1
5	4-240 days	2.25-6 Gm.	4	1	0	0	None, 5
30	2-28 days	1.5-9 Gm.	24	3	0	3	None, 25 Dizziness, 1 Lightheadedness, 2 Nausea, 2 *
6	3-60 days	4-8 Gm.	6	0	0	0	None, 6
72			59	6	3	4	*Relieved on reduction of dose

References: 1. Carpenter, E. B.: Publication pending. 2. Carter, C. H.: Personal communication. 3. Forsyth, H. F.: Publication pending. 4. Freund, J.: Personal communication. 5. Morgan, A. M., Truitt, E. B., Jr., and Little, J. M.: American Pharm. Assn. 46:374, 1957. 6. Nachman, H. M.: Personal communication. 7. O'Doherty, D.: Publication pending. 8. Truitt, E. B., Jr., and Little, J. M.: J. Pharm. & Exper. Therap. 119:161, 1957.

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Medicare Program Marks First Anniversary: $43 Million in Claims

The military's Medicare program was one year old on December 7. To date, according to the Defense Department, the government has paid more than 300,000 physicians' bills amounting to $22 million, and over 200,000 civilian hospital bills totaling $21 million. While the combined total is considerably under the estimated $76 million a year for the program, the Office of Dependent's Medical Care points out that there is a backlog of claims. In all likelihood, the President's budget will ask for around $76 million.

Administrative costs, according to OCDM, have been running around 3 per cent of total expenditures, which a spokesman said was just about "on the button." Almost 40 per cent of Medicare patients have been maternity cases. The Air Force leads the services with 41 per cent of eligible dependents participating; then the Navy, with 32 per cent; Army, 25 per cent, and Public Health Service, 2 per cent.

The Medicare program was enacted into law on June 7, 1956, and became effective six months later. Its objective is to create and maintain high morale in the uniformed services by providing an improved and uniform program of medical care for members and their dependents. —*A.M.A. Washington Letter*

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Newborn Infants May Be Moved Safely By Air

Infants who need life-saving surgery can be safely transported — even by air — to another hospital within hours after birth, a Philadelphia surgeon stated.

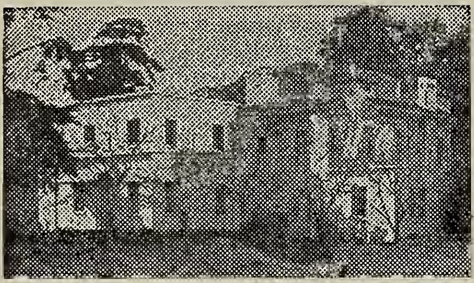
However, certain precautions must be taken, Dr. Harry C. Bishop of Children's Hospital, Philadelphia, said in the November 9 issue of the *Journal of the American Medical Association.*

Infants born with congenital heart, intestinal, respiratory, or other defects can be saved if the necessary corrective surgery is performed soon enough.

Specialists in surgical treatment of these disorders are frequently concentrated in large children's hospitals, where their team efforts offer the newborn child needing corrective surgery a better chance of survival, Dr. Bishop said. Therefore, babies frequently must be moved from the hospitals where they are born to these centers.

Such a move must be supervised, he said, by a person who understands that the baby's chances of survival diminish with each passing hour prior to corrective surgery. Arrangements must be made immediately. They include giving the baby antibiotics to prevent infection and a minimum of examination to prevent tiring him too much.

(Continued on Page 22)



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TABLETS: Each tablet contains 0.5 Gm. (7½ grains) of sulfamethoxypyridazine. Bottles of 24 and 100 tablets.

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Newborn Infants May Be Moved Safely By Air

(Continued from Page 18)

Although transfer by car or ambulance is most common, air travel is not dangerous if traveling incubators and adequate nursing are available, he said. A person experienced in caring for the newborn must travel with the child. For a long trip he should be moved in an incubator equipped with an oxygen tank. For a short trip he may be warmly wrapped and carried in the arms. Then a small oxygen face mask should be available.

It is desirable for the father to travel with the infant and nurse, since the surgeon should meet the father, discuss the surgery, and answer his many questions, Dr. Bishop said. However, the baby's transfer should not be delayed if the father is unavailable.

Make your hotel reservation today for the C.M.A. Annual Session, Los Angeles, April 27-30, 1958. Application for Housing Accommodations may be found on page 78, Advertising Section.

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LOS ANGELES

American Medical Association Tells Why It Opposes Forand Bill

The American Medical Association has announced that it will strongly oppose any federal legislation which would provide hospitalization and medical benefits under the Social Security program.

Such benefits under Social Security have been proposed under terms of a bill, H.R. 9467, which was introduced by Rep. Aime Forand (D.-R.I.).

"This proposal is clearly 'socialized medicine' for a segment of the American people," said Dr. David B. Allman, Atlantic City, president of the American Medical Association. "The enactment of this legislation will permit the federal government to withdraw Social Security taxes on a compulsory basis from almost the entire working population and use those taxes to reimburse hospitals and physicians for services rendered to all persons eligible to receive old age and survivors' benefits."

It is estimated that there are approximately 12 to 13 million persons in these categories.

"The American Medical Association has repeatedly opposed compulsory health insurance and is unequivocally opposed to this new version," Dr. Allman said.

He stated that the nine-member A.M.A. Board of Trustees had appointed a special Task Force to conduct an intensive research study of the health status of the population over the age of 65.

The chairman of this committee is Dr. George M. Fister, of Ogden, Utah. Besides Dr. Fister, committee members are: Drs. Frank C. Coleman, Des Moines; Robert L. Novy, Detroit; George F. Gsell, Wichita, Kansas, and James Duffy Hancock, Louisville, Kentucky.

The committee, which has already held two meetings, appointed Mr. Walter Polner, Chicago, of the staff of the A.M.A. Bureau of Medical Economic Research, to conduct the research study. He will collect and collate data and opinions bearing on the following questions:

(1) What is the extent of the problem?

(2) What are the economic resources of the persons affected?

(3) What are voluntary insurers doing and planning to meet existing needs?

(4) To what extent does public assistance meet the need?

(5) What is the relationship of the family to the aged persons in this group? Specifically, what are the resources and obligations of children and grandchildren to the aged?

(6) What is the incidence of hospitalization and illness by age groups?

(7) What is the relative status of voluntary measures for the care of the over-65 age group today as compared to the situation five or ten years ago?

(Continued on Page 32)

---

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1. Levy, S., *JAMA.*, 153:1260, 1953
2. Thompson, L., Procter R., *North Carolina M. J.*, 15:596, 1954
3. Thompson, L., Procter, R., *Clin. Med.*, 3:325, 1956

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CONFUSION . . .

to a
NORMAL
BEHAVIOR
PATTERN

American Medical Association Tells Why It Opposes Forand Bill

(Continued from Page 26)

The answers to these and other questions, Dr. Allman said, will be incorporated in the Association's testimony before Congress and will be used in American Medical Association's educational efforts in behalf of the American people.

Commenting on the American Medical Association's stand, Dr. Fister said:

"The pressure for expansion of the Social Security System into the area of health and medical care benefits is formidable. Congressman Forand has expressed his gratitude to the AFL-CIO for assistance in framing the bill. Many members of Congress will inevitably support such legislation because of pressure from their constituents, particularly those over 65, who will be favorably impressed by the immediate benefits to be gained.

"On the other hand, the strength of the opposition to this precipitate and revolutionary proposal is also great. Allied with the American Medical Association in its opposition are the American Farm Bureau Federation, the National Retailers Federation, the United States Chamber of Commerce, the life insurance and health insurance industries, the National Association of Manufacturers and innumerable other organizations and individual citizens who are opposed to government intervention into medical and other private affairs. These organizations and individuals will again indicate their strong opposition to the nationalization of hospitals and medicine, just as they did in 1950.

"State and county medical societies throughout the country are already working with state and local affiliated bodies of national organizations and other influential groups, whose policies are such that they would be expected to oppose socialized medicine.

"This is being done because the A.M.A. feels that an informed and aroused public opinion is the only real safeguard against such ill-advised legislation as the Forand bill."

Dr. Fister said today's Social Security proposal is "nothing more than the old national compulsory health insurance scheme in new dress, and the American Medical Association has always been opposed to compulsory health insurance.

"The American Medical Association has supported and promoted voluntary health insurance and other voluntary measures designed to promote individual and family economic security and responsibility. Progress in this direction has been phenomenal. Let's not take hasty action; there is no immediate problem. This picture is too complex. What we must do is study the problem carefully. Government intervention would be fatal."

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when anxiety and tension "erupts" in the G. I. tract...

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Each tablet contains: Calcium pantothenate 2.5 mg.; calcium* (elemental) 67 mg.; vitamin C 33.4 mg.; vitamin A 2,000 units; folic acid .05 mg.; vitamin D 200 units; vitamin B_{12} 1.0 mg.; vitamin E (tocopherols) 1 I.U.; iron (reduced) .10 mg.; vitamin B_1 1.0 mg.; copper .3 mg.; vitamin B_2 1.0 mg.; cobalt .03 mg.; vitamin B_6 .5 mg.; manganese .3 mg.; niacinamide 5.0 mg.; molybdenum .03 mg.; magnesium 10 mg.; zinc .2 mg.; potassium 1 mg.; *oyster shell, 3 parts; calcium gluconate, 1 part; dosage: 3 daily, with meals, or as directed by the physician.

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"Premarin"®
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Drug Addiction Picture Not Bleak

Frightening images of American youth being preyed upon by unscrupulous dope peddlers aren't very true to life, according to an article in the November 30 issue of the *Journal of the American Medical Association.*

The article, first of three consecutive ones scheduled to appear in the *Journal,* says that while drug addiction among younger persons is a problem, it isn't as alarming as most people think it is.

The third article in the series states that recent studies have shown that "active proselyting by drug peddlers plays a very small role in spreading addiction."

Addiction apparently spreads, adds the article, from person to person, with addicts giving drugs to the beginner as a friendly gesture.

The articles constitute the report of the American Medical Association's Council on Mental Health in conjunction with its committee on narcotic addiction. The report was first presented to the American Medical Association's Board of Trustees in November 1956, and was adopted by the American Medical Association's House of Delegates last June.

Generally speaking, the council members feel that drug addiction should be viewed as an illness. They also feel there should be a movement toward treating addicts medically rather than punitively.

The group points out that in Great Britain, where the approach to the problem is more medical than that of the United States, addiction is considerably less in terms of percentages.

In the United States, the report continues, "there are probably not more than 60,000 addicts. . . ." And, while addiction in persons under 21 years of age has increased since World War II, the problem isn't as great as many people think it is. Only about 13 per cent of known addicts are younger than 21. Nor is the problem of adolescent addiction a new one. A similar alleged increased of drug addiction among young people followed World War I.

The council feels that while opiate addiction is undesirable, it is not nearly as evil as the public and law enforcement officers think it is.

For one thing, "opiate addiction does not cause the degree of damage to physical health that other intoxications tolerated by our society can cause."

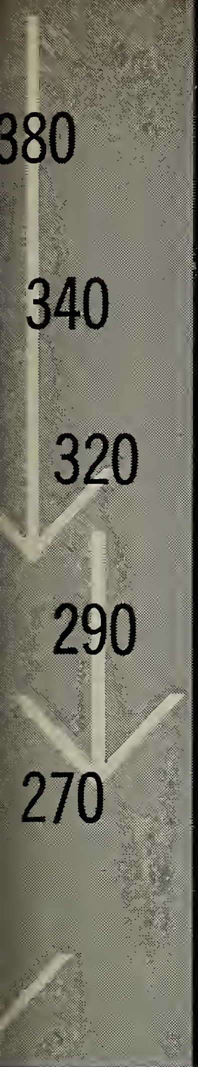
Also, opiates do not incite addicts to commit violent crimes which they would not commit without the drugs. Opiates are quieting drugs that repress hostile urges and depress sexual drives.

Among the recommendations made in the report is one that the A.M.A. continue to study the problem and "to support reasonable proposals designed to improve the treatment and prevention of drug addiction."

Such measures might include, adds the report:

(a) Development of institutional care programs

(Continued on Page 50)



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**from specially refined safflower seed oil. Provides approximately 294 mg. of linoleic acid.

dosage: Therapeutic dose, 6 to 9 capsules, in divided doses with meals, or more as needed. Maintenance dose, one LUFA capsule t.i.d. with meals.

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Samples, literature and diet charts for patients on request.

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GENERAL PRACTITIONERS—Orange County, in Southern California, has stabilized agricultural economy and rapidly expanding industrial area. Population 1950—216,000; 1957—475,000. Santa Ana, medical center of the county, and ten miles from the ocean is the location of the new Santa Ana Medical Center. Scott & Company, owner, have established contacts with business concerns who need services of General Practitioner. We can assure immediate practice for two young physicians who can meet our requirements and standards. Santa Ana Medical Center, 2515 North Main Street, Santa Ana, California.

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CALIFORNIA LICENSED PHYSICIAN SURGEONS WANTED: Contact us for registration forms and information on our many excellent opportunities in California. Outstanding openings in GENERAL PRACTICE, INDUSTRIAL AND THE SPECIALTIES . . . associations, assistantships, groups, locations for private practice in NORTHERN, CENTRAL AND SOUTHERN CALIFORNIA. PACIFIC COAST MEDICAL BUREAU agy., 703 Market Street, SAN FRANCISCO, or 510 West Sixth Street, LOS ANGELES.

GP FOR SOUTHERN CALIFORNIA FIRM—Progressive aircraft corp., located in a desirable area of Southern California, employing about 3,500 people, wishes full time Physician. Prefer well trained general practitioner interested in handling traumatic and minor orthopedic cases, and who can carry out our executive personnel physical program. Some industrial experience would be beneficial, but it is not an absolute prerequisite. Salary is open, depending upon experience, training, etc. Write Box 93,870, California Medicine.

(Continued in Back Advertising Section on Page 84)

Restricted Use of Thallium In Pest Control Recommended

The use of thallium as a pesticide should be restricted to persons familiar with its hazards and trained in its handling, an American Medical Association committee has recommended.

Thallium sulfate, a heavy, white, water-soluble salt resembling table salt, is used for the control of rats, mice, ground squirrels, prairie dogs, moles, and insects such as ants and roaches.

The metal is extremely poisonous to all forms of life, according to a special report, prepared by the committee on pesticides of the American Medical Association Council on Drugs. The report, in the November 23 *Journal of the American Medical Association* was prompted by the occurrence—within six months—of more than 60 cases of thallium poisoning, including three deaths, in small children in Texas.

Thallium is one of the "more insidious poisons" because of the delayed and undistinguishing character of most of its symptoms and because of the difficulty in treating poisoning and preventing disabling after effects, according to Bernard E. Conley, Ph.D., Chicago, secretary of the committee.

The most common way in which thallium poisoning occurs is through eating pest baits containing the metal. It may also occur in industry and by eating accidentally contaminated foods. The chemical has a "notorious record" as a means for suicide or homicide. In Europe thallium is now claimed to be superseding arsenic as a murder weapon, the report said.

Unfortunately effective baits containing thallium and other poisons for pest control are usually food products, which also attract children and pets. This factor is often aggravated by careless storage of attractive packages within reach of children.

The alarming rate of thallium poisoning in Texas and other places threatens to place the pesticidal use of thallium in the same disrepute as is its use as a drug and cosmetic. It has been used as a depilatory and as a treatment for such diseases as syphilis and ringworm of the scalp.

The availability of effective and less toxic insecticides and rodenticides suggests that sanitation and the public welfare would not be harmed by discouraging the use of thallium as a household chemical, Dr. Conley said.

Symptoms of acute thallotoxicosis are variable, usually appearing in the gastrointestinal tract and nervous system. Loss of hair is the most familiar sign, the report said. Digestive disturbances include a metallic taste, salivation, nausea, vomiting, and abdominal pain. There may be puffiness of cheeks,

(Continued on Page 54)

24-hour blood levels

on a **SINGLE** intramuscular dose,
in minimal injection volume

This achievement is made possible by the unique solubility of TETREX (tetracycline phosphate complex), which permits *more* antibiotic to be incorporated in *less* volume of diluent. Clinical studies have shown that injections are well tolerated, with no more pain on injection than with previous, less concentrated formulations.

TETREX Intramuscular ‘250’ can be reconstituted for injection by adding 1.6 cc. of sterile distilled water or normal saline, to make a total injection volume of 2.0 cc. When the entire 250 mg. are to be injected, and minimal volume is desired, as little as 1.0 cc. of diluent need be used. (Full instructions for administration and dosage for adults and children, accompany packaged vial.)

Each one-dose vial of TETREX Intramuscular ‘250’ contains:

TETREX (tetracycline phosphate complex) (tetracycline HCl activity)	**250 mg.**
Xylocaine* hydrochloride	**40 mg.**

plus ascorbic acid 300 mg. and magnesium chloride 46 mg. as buffering agents.

**® of Astra Pharm. Prod. Inc. for lidocaine*

SUPPLY: Single-dose vials containing TETREX — tetracycline phosphate complex — each equivalent to 250 mg. tetracycline HCl activity. Also available in 100-mg. single-dose vials.

NTRAMUSCULAR ‘250’
WITH XYLOCAINE

RISTOL LABORATORIES INC., SYRACUSE, NEW YORK

Drug Addiction Picture Not Bleak

(Continued from Page 38)

in cities and states having significant problems.

(b) Study of various means to obtain institutional care in states with small addiction loads.

(c) Development of programs for intensive post-institutional treatment of addicts.

(d) Development of methods for commitment of addicts to institutions by civil action rather than through actions in the criminal courts.

(e) Continued support and expansion of mental health programs.

The council strongly recommended that the policy of voluntary admissions for addiction treatment be continued and extended.

The report also says that "in view of all available evidence," the establishment of clinics to supply drugs to addicts would not be a wise move.

This latter opinion should, the report adds, be subject to review from time to time as new scientific knowledge becomes available.

C.M.A. ANNUAL SESSION
Los Angeles
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In Angina Pectoris The Attacks Lessen and The Patient Loses His Fear

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LONG-ACTING TABLETS CONTAINING PENTAERYTHRITOL TETRANITRATE (PETN) 10 MG. AND RAUWILOID® (ALSEROXYLON) 0.5 MG.

EFFECTIVE control of angina pectoris requires the several actions of Pentoxylon. In addition to sustained coronary vasodilatation Pentoxylon provides relief of anxiety, a pleasant tranquilizing, fear-lessening effect, and a pulse-slowing action, all desirable in management of the anginal patient.

- Reduces incidence of attacks
- Reduces severity of attacks
- Reduces or abolishes need for fast-acting vasodilating drugs
- Reduces tachycardia
- Reduces blood pressure in hypertensives, not in normotensives
- Increases exercise tolerance
- Exceptionally well tolerated
- Minimal side actions

DOSAGE: One to two tablets q.i.d. before meals and on retiring.

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Presenting an advance in the treatment of

VAGINITIS:

a **new**
specific
moniliacide
MICOFURT.M.
brand of nifuroxime

now added to

the **established**
specific
trichomonacide
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VAGINAL SUPPOSITORIES AND POWDER

85% CLINICAL CURES*

In 219 patients with either trichomonal vaginitis, monilial vaginitis or both, clinical cures were secured in 187.

71% CULTURAL CURES*

157 patients showed negative culture tests at 3 months follow-up examinations. Patients reported rapid relief of burning and itching, often within 24 hours.

STEP 1 *Office* administration of TRICOFURON VAGINAL POWDER **IMPROVED** at least once weekly.

STEP 2 *Home* use of TRICOFURON VAGINAL SUPPOSITORIES **IMPROVED** by the patient, 1 or 2 daily, including the important menstrual days.

*Combined results of 12 independent clinical investigators. Data available on request.

SUPPOSITORIES:
0.375% Micofur, 0.25% Furoxone.
POWDER:
0.5% Micofur, 0.1% Furoxone.

EATON LABORATORIES, NORWICH, NEW YORK

Use of Anticoagulant Drugs To Prevent Strokes

The National Institute of Neurological Diseases and Blindness has awarded $58,000 in grants to six medical research centers and medical schools to conduct the first cooperative study to evaluate the effectiveness of anticoagulant drugs to prevent strokes. The work is scheduled to be completed in about three years. In announcing the study, Public Health Service pointed out that strokes and cerebral vascular diseases rank next to heart disease and cancer as killers and take an estimated 172,000 lives annually in this country. Of this new study, PHS said:

"Anticoagulant research in the cerebrovascular field has been under way in various research centers for several years. Under the new cooperative program the coordination of research efforts can provide a thorough evaluation of anticoagulant therapy in a relatively short time. An estimated 1800 patients will participate—a total far beyond the number available for study by any one institution except over a period of many years."

Participating in the study are: University of Miami Medical School, Miami, Fla.; Emory School of Medicine, Atlanta, Ga.; Massachusetts General Hospital, Boston; Duke University School of Medicine, Durham, N. C.; University of Pennsylvania Hospital, Philadelphia; and Cornell University Medical School.

—*A.M.A. Washington Letter*

Food and Drug Administration Organizes New Information Service

A new information service, with articles to be published in the Federal Register, has been set up by Food and Drug Administration. Facts will come largely from letters written by FDA officials in answer to questions raised by the trade. The new service is described by FDA as somewhat similar to the former Trade Correspondence Information Service, discontinued two years ago.

—*A.M.A. Washington Letter*

Restricted Use of Thallium In Pest Control Recommended

(Continued from Page 44)

eyelids, and lips, tingling and pain in the hands and feet, muscular weakness, delirium, convulsions, and coma.

Death may occur in a few days or be delayed several weeks. Recovery requires six or more months and there are frequent sensory and nervous system after effects.

The report said the recommendation that thallium be used only by experienced persons is "neither new nor novel." Over 30 years ago a similar recommendation was made in the *Journal of the American Medical Association* in a review of the hazards of thallium used in agriculture.

Geritag

in PREVENTIVE GERIATRICS a FIRST from TUTAG!

Now — 20 to 1 Androgen-Estrogen (activity) ratio*!

Each Magenta Soft Gelatin Capsule contains:

Methyltestosterone	2 mg.	Thiamine Hcl.	2 mg.
Ethinyl Estradiol	0.01 mg.	Riboflavin	2 mg.
Ferrous Sulfate	50 mg.	Pyridoxine Hcl.	0.3 mg.
Rutin	10 mg.	Niacinamide	20 mg.
Ascorbic Acid	30 mg.	Manganese	1 mg.
B-12	1 mcg.	Magnesium	5 mg.
Molybdenum	0.5 mg.	Iodine	0.15 mg.
Cobalt	0.1 mg.	Potassium	2 mg.
Copper	0.2 mg.	Zinc	1 mg.
Vitamin A	5,000 I.U.	Choline Bitartrate	40 mg.
Vitamin D	400 I.U.	Methionine	20 mg.
Vitamin E	1 I.U.	Inositol	20 mg.
Cal. Pantothenate	3 mg.		

Write for Latest Technical Bulletins.

*REFERENCE: J.A.M.A. 163: 359, 1957 (February 2)

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California
MEDICINE

OFFICIAL JOURNAL OF THE CALIFORNIA MEDICAL ASSOCIATION
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Volume 88 JANUARY 1958 Number 1

Chronic Disabling Respiratory Disease

Ends and Means of Study

C. M. FLETCHER, C.B.E., M.D., F.R.C.P., London

• In the program of research into the natural history of coalworkers' pneumoconiosis now being carried out in Great Britain, emphasis is being put upon the importance of sharpening and validating means for early diagnosis, and upon the need for follow-up studies upon properly selected population samples. Existing information from morbidity and mortality figures from chronic bronchitis and emphysema in Great Britain suggests that atmosphere pollutants are important etiological factors. A parallel is drawn between the course of events in pneumoconiosis, in which dust retention in the lungs does not greatly disable until complicated by tuberculous infection, and a hypothesis that bronchitis is a hypersecretion of bronchial mucus caused by atmospheric irritants and does not disable but encourages secondary infection which may cause emphysema. This hypothesis requires testing by follow-up studies of population samples exposed to various environmental influences. It is suggested that in order to bring this common and disabling disease under control, clinicians must widen their interests beyond the confines of the hospital walls.

In a lecture to a convocation held in celebration of recent medical progress at the University of Pennsylvania in October 1930, my father, who was then Secretary of the Medical Research Council of Great Britain, compared the meaning of the word "medicine" in its narrow therapeutic sense with its true meaning.[1] "The very word *medicine,*" he said, "has for all of us at first sound, and certainly for all laymen, a disagreeably narrow meaning. We think of the drug or mixture prescribed by the doctor in an illness. . . . Medicine in its proper sense has a far wider and nobler application. It includes all the sciences and all the high arts that the practising physician or surgeon brings to serve his fellow man in disease or accident. But the true realm of medicine has already extended, and is still extending, far beyond this; more and more, as our knowledge grows, it is coming to have its denomination in almost every activity and interest of human life. For one thing, it has become more addressed to the arts that are preventive rather than curative."

How far today, it may be asked, has this address towards preventive thought been maintained in our medical schools? The immense increase of diagnostic and therapeutic power that has been given to the clinician in the past thirty years has been so great that we have tended to forget our responsibilities for prevention of disease. We are now faced with the modern epidemic of coronary artery disease and lung cancer among middle-aged men[2] and the other so-called degenerative diseases of the elderly which are so unrewarding to treat. These are diseases over which control cannot be gained merely by the study of disordered physiology—what the

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late Sir James Spence[3] called "medical phenomenology"—nor by attempts to correct the disorder by drugs or by surgical operation. We must realise that we have to look out into the community beyond the hospital walls and study the origins of these diseases.

I propose to speak here of two related fields of medical enquiry with which I have been concerned and which have led me to think about these things. The first is the well-tilled field of pneumoconiosis of coalworkers. I believe that some of the ideas gathered from this field, and some of the means used for their gathering, may be relevant to work in the other field, that of chronic bronchitis and pulmonary emphysema, in which serious work is only just beginning.

The breathlessness of elderly miners, or miners' asthma, has been known of antiquity and the black spit of coalminers and their black lungs at autopsy were described over 100 years ago.[4] But it was not until the advent of chest radiography that interest was rekindled in Great Britain, when abnormalities resembling those of silicosis were noted to be widespread among coalminers, especially those working in anthracite mines.[5,6] Between 1930 and 1940 extensive radiographic, clinical and environmental surveys of coalminers were carried out in many countries, the most thorough and informative being those of the United States Public Health Service in Pennsylvania and Utah[7,8] and of the Medical Research Council of Great Britain in South Wales.[9,10,11]

The general conclusions from these surveys, and which were widely accepted 12 years ago, were that coalminers, especially those working in anthracite mines, were liable to pulmonary fibrosis which was at first of minor degree causing only slight disability, but which, with further exposure to dust, increased steadily and continuously in severity with the production of massive consolidated fibrosis and severe disability. Only the American and British surveys included studies of the dust content of the miners' environment. In both it was shown that the anthracite mines were the dustier, so that a simple quantitative explanation of the greater incidence in them compared with bituminous mines might have been acceptable; but it became widely accepted that anthracite dust had some special toxicity. As to the nature of this toxicity a wide difference of opinion emerged between investigators in America and on the continent of Europe on the one hand and British investigators on the other. The American and Continental view was that the disease was a form of silicosis due to silica dust inhaled along with the coal, and it was called anthracosilicosis. The British view was, and still is, that the coal itself causes the disease. This view was based partly on the great pathologic contrast between the silicotic nodule and the coal "macule"[12,13] but also on the discovery that men working in the holds of ships loading with coal—coal trimmers—developed the same disease as coal miners[14,15] although the silica content of the pure coal dust they inhaled, and the dust found in their fibrotic lungs at autopsy was very small.[11] Hence in Great Britain the purely descriptive term *coalworkers' pneumoconiosis* came into use.

The place of tuberculosis in the disease remained uncertain. The general view was that tuberculosis was not infrequently associated with massive fibrosis, but that it played no essential causative role.[9] Gough[12] was the chief protagonist of the view that it was causative. He pointed out the contrast between the disseminated reticulin response of the lung to coal dust and the localised, collagenous and necrotising process of massive fibrosis, which he postulated was due to a modified form of tuberculosis.

The British survey had shown widespread disease in South Wales; and publication of the report upon it was followed by a change in the Government's compensation scheme to allow compensation for coalworkers' pneumoconiosis. The consequences in South Wales were alarming. The pre-war annual trickle of persons applying for and receiving compensation was turned into a flood. Within a few years thousands of disabled miners, suspended from their accustomed work, were looking in vain for alternative employment.[16] The economic consequences to the individual and to the industry were enormous.[17] Measures to suppress the dust in the mines began to be introduced, but could not be expected to affect the prevalence of the disease immediately. The minister responsible for the mines appointed a committee to advise upon treatment and rehabilitation. The committee was unable to recommend any effective measures, and advised the setting up of "A Centre for Clinical Study and Research."[18] Thus it came about that in 1945 the Medical Research Council invited me to organise a Research Unit in South Wales in order to study the problem of coalworkers' pneumoconiosis.

The terms of reference I was given by the Medical Research Council were not restricted to "clinical study and research" but were entirely undefined. The economic importance of pneumoconiosis was such that it was possible to build up and equip quite a large group of investigators, both medical and nonmedical. The credit for the research that was done is not mine, but belongs to my colleagues who did the work. Most of this work has been published and I can only attempt to summarise some aspects of it in brief outline. My purpose is not to instruct you in the details of a specialised subject but rather to attempt to illustrate some of the principles which I believe may be of general relevance to the study of disease and its prevention.

The first task we attempted was to find out what had happened to men who had left the mines on receipt of compensation. It was generally believed, on the basis of previous surveys, that progression from the earlier to the later stages of the disease was caused by continued exposure to dust, so that progression might be arrested by removal to less dusty work. For the purposes of the compensation scheme it had been assumed quite arbitrarily that the danger point arose when a radiological picture called "reticulation" had developed. At this stage men became eligible for compensation, after which they were suspended from further mining. To test this assumption we re-examined men who had been examined roentgenographically upon certification in past years. None of these men had subsequently worked in the mines. We also re-examined men who had had x-ray examination in the previous survey in South Wales, most of whom had continued to work in the mines.

Our conclusions from this follow-up survey were quite different from those previously based on surveys carried out at a single point in time; for we found that the early and later stages of the disease behaved quite differently.[19] Persons with no more than the radiological appearance then known as reticulation showed an intensification of this appearance only if they continued to work under dusty conditions. In a small proportion of these cases massive fibrosis developed, and this proportion was the same in those exposed and not exposed to dust. In persons who already had coalescent or massive shadows in the first x-ray examination, progression was the rule, at first by enlargement and later by contraction of the fibrous masses with distortion of the lungs, and development of bullous emphysema. But the frequency and rate of such progression appeared to be uninfluenced by dust exposure. In fact, dust exposure appeared only to influence the development of the earlier disseminated shadows, which we called simple pneumoconiosis, and which appeared to be due simply to dust inhalation. The onset and progression of the massive fibrosis was apparently due to something else; although pre-existing simple pneumoconiosis was necessary for its appearance.

Recently Cochrane,[20,21] working with larger and better balanced populations, has shown that the attack and progression rates of massive fibrosis are significantly affected by age and that the rate of progression is probably faster in men who stay in mining than in those who leave. Fortunately, these later refinements do not affect the main conclusions from our first investigation; namely, that the disease is not a single entity but comprises two separate interdependent processes, one attributable solely to dust exposure, the other to some other additional factor. This conclusion was in agreement with the pathological observations of Gough,[12] to which I have already referred. There was other supporting evidence in favour of this "two-disease hypothesis," but its main foundations were the existence of two distinct types of pathologic changes as observed postmortem, and of two separate modes of progression during life. All our subsequent work was based upon this early conclusion and no contrary evidence has emerged.

Some incidental products of this first survey proved important to later work. First, we developed a system of radiological classification which recognised and separated the two forms of the disease, and, within each division, separated categories of increasing severity related to the natural development of the disease as we had observed it.[22] In simple pneumoconiosis, improved radiological technique enabled us to define our first category at a much lower level than previously, thus providing a more sensitive index for epidemiological studies. We were able to demonstrate its validity by showing that we did not diagnose it in films of nonminers. The validity of the classification of simple pneumoconiosis was established by showing a quantitative relationship between the categories and the severity of dust exposure.[23] This scheme formed the basis of an international system of classification sponsored by the International Labour Organisation, which is now gaining wide acceptance.[24]

Early in this work we attempted to relate our radiological diagnoses to those of the official medical boards, and in so doing we hit upon the problem of observer variation in diagnosis. This was at the time that American workers, led by your president* and Professor Yerushalmy, had come up against the same problem in relation to pulmonary tuberculosis.[25,26,27] Our problem was extremely serious. In one series of 100 films, read by ten doctors, the numbers considered to show sufficient abnormality for official "certification" varied from nine in the opinion of one doctor to 63 in the opinion of another. One third of the films were read as normal by at least one observer but as "certifiable" by at least one other.[28] We tackled this problem by meticulous verbal definitions of the categories, and by having standard films exemplifying their limits.[29] We also developed a policy of duplicate readings of all films. Subsequently our most experienced observers attained over 90 per cent consistence in repeat readings,[30] but disagreements between observers are still considerable.[23] The difficulty of producing films of standard technical quality is one which still has to be solved although advances have been made by standardization of technique.[31,32]

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Another important product of our follow-up studies, and the quantitative classification, was the observation that massive fibrosis always occurred on a background of Category 2 or 3 simple pneumoconiosis but never on Category 1. This led to the suggestion that this more serious form of the disease might be prevented by removing men from severe dust exposure at a much earlier stage than the official reticulation.[33] After this stage there was less point in so doing since removal could have little effect on the chances of developing massive fibrosis.

Essential as the radiograph is for diagnosis, the shadows in an x-ray film are of little importance in themselves; what matters is the dyspnoea and the shortening of life caused by the disease. It was essential to discover the quantitative relationship between the radiological picture and its clinical consequences if the radiographic diagnosis was to have clinical significance. The literature upon this subject was remarkably confused. This was partly owing to the variety of radiological classifications that had been used; but chiefly because of inattention to the bias introduced by using only the men applying for compensation or referred to hospitals for treatment. This bias obscures the true relationship between radiological stage and disability. For instance, an exactly opposite trend of disability in relation to category of simple pneumoconiosis has been found in working miners as against miners applying for compensation.[34] Another source of distortion is the effect of age in diminishing respiratory function. A valid comparison between different radiological groups can only be made upon subjects of the same age.

Neither of the two populations in whom we had studied the natural history of the disease were suitable for disability studies. One consisted of a sample of certified men with a bias towards disability; the other predominantly of working miners among whom the later stages of the disease were poorly represented. We had as yet no complete community from which we could draw an ideal sample. We therefore took our sample from an artificial population compounded as best we could arrange from a mixture of these two populations, together with some extra subjects diagnosed during mass-radiography surveys and a group of miners with normal x-ray films working at a mine with a low incidence of disease. We decided to study three ages and five radiological groups and we also took groups of nonmining men of the appropriate ages. This plan enabled us to investigate independently the effect of age and of radiological status. All these subjects were submitted to clinical study and a battery of physiological tests.

In a 250-page book[35] my colleagues, Dr. Gilson and Dr. Hugh-Jones, reported on this extensive investigation. With new physiological techniques they obtained indices of various functions, and made elegant demonstration of interrelationships. In pneumoconiosis, the maximum breathing capacity correlates closely with exertional dyspnoea, which is the chief cause of disability. Chart 1 shows the average relationship, including age and radiological status. In every stage and in normal men, too, aging is accompanied by a steep decline in ventilatory capacity. Simple pneumoconiosis produces a small impairment of this capacity, but in complicated pneumoconiosis it is depressed to levels at which disability is severe. The graph shows mean values. There is actually a very wide scatter. This, together with aging, conceals the relationship between radiographic status and disability from those who see only the occasional patients, of various ages, that come seeking medical advice.

All the groups of miners show reduction of ventilatory capacity, below normal. As far as we could tell from the limited numbers studied, this holds whether simple pneumoconiosis is visible by x-ray

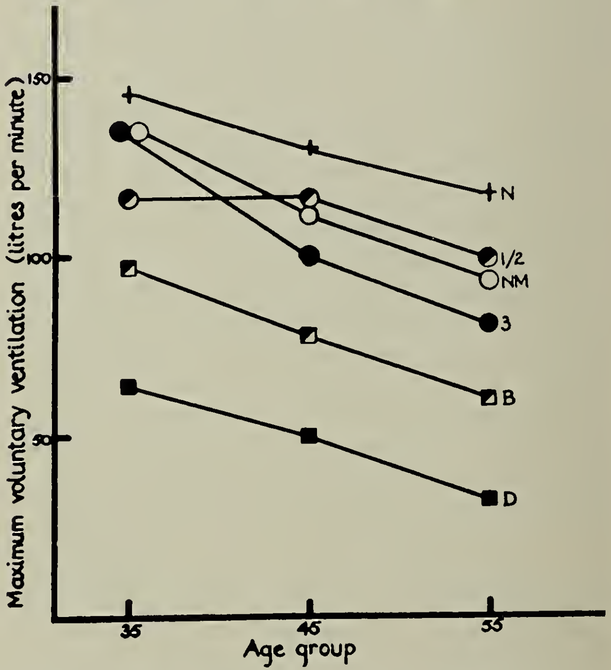

Chart 1.—Relationship between age, radiological category and mean maximum breathing capacity in groups of miners with and without pneumoconiosis and of nonmining controls. (From Gilson and Hugh-Jones.[35]) N=Normal nonminers, NM=Miners with normal x-rays, 1/2=Miners with category 1 or 2 simple pneumoconiosis, 3=Miners with category 3 simple pneumoconiosis, B=Miners with category B complicated pneumoconiosis, D=Miners with category D complicated pneumoconiosis.

or not. Dr. Gilson has since confirmed this on complete mining communities sampled by Dr. Cochrane.[34] In fact, leaving out the ones with massive fibrosis, the most pronounced impairment of ventilation occurs in the miners with normal thoracic roentgenograms rather than in those with simple pneumoconiosis. Symptoms suggestive of chronic bronchitis are also more prevalent among these miners with normal x-ray films than among miners with simple pneumoconiosis or among non-miners.[36] This is an observation of importance in relation to compensation and to the aetiology of bronchitis and emphysema. Mortality studies in complete mining communities have shown no evidence of greater mortality among persons with simple pneumoconiosis than in the general male population of England and Wales, but for persons with massive fibrosis the mortality rate is somewhat increased.[37]

The picture of the disease as it then appeared was that inhalation of coal dust produces disseminated deposits of dust throughout the lungs, which cause the radiological appearance of simple pneumoconiosis and this increases in intensity as more and more dust is inhaled, but it causes little disability or shortening of life except insofar as it predisposes, when a certain threshold of severity has been reached, to the onset of massive fibrosis which may be seriously disabling and may shorten life.

Prevention of pneumoconiosis is essentially a question of dust prevention and is thus a matter of engineering; but the engineer depends upon medical evidence to tell him what levels of dust concentration may be considered safe. We found that we could not obtain accurate information from prevalence surveys; for the disease observed today must be related to past concentrations of dust and these cannot be estimated with any confidence.[38] Prospective surveys with contemporaneous measurements of dust and disease are required. The National Coal Board is now undertaking extensive surveys of this kind in 24 mines throughout the country,[39,40] using the radiological classification and techniques for assessing the average dust exposure of groups of workers which were developed in our unit.[41,42] We may be cautiously optimistic about the future. Great advances have been made by Coal Board engineers in dust suppression, and even if simple pneumoconiosis cannot be entirely prevented, its onset may be delayed into later life, when the attack rate of disabling massive fibrosis is reduced.[20,43] Moreover, periodic x-ray examination of all miners, which is to be introduced into all British coal mines in 1958, will detect men who in whom simple pneumoconiosis is developing at an early age so that the engineers' attention may be drawn to the places in which they have worked and so that they may be removed to less dusty work before they reach the "critical stage" (to which I have referred) at which they become liable to progressive massive fibrosis.

Lastly there is the question of tuberculosis and massive fibrosis.[44] By means of a unique controlled epidemiological experiment[45] Dr. Cochrane and his team have reduced tuberculosis infectivity in one mining valley following a 90 per cent survey of the population. They have found a subsequent reduction in the attack rate of progressive massive fibrosis compared with a control community, although the difference is not yet quite significant.[20] Future surveys may bring the matter to a clear conclusion. Meanwhile the hypothesis that massive fibrosis is tuberculous in origin has been strengthened by the production by King and his colleagues of a similar pathological lesion in guinea-pigs into whose lungs coal dust has been injected together with tubercle bacilli of reduced virulence.[46,47] I think it is fair to say that by vigorous tuberculosis control in mining communities, together with periodic examinations, we have the means at hand to prevent the development of disabling pneumoconiosis even if the engineers fail to achieve complete control of dust concentrations.

I now want to attempt to peer into the mist of ignorance that surrounds what is probably the most widespread cause of respiratory disability today, at least in Great Britain—chronic pulmonary emphysema. And I want to consider whether the means that I have been describing may not be applied to the end of discerning how to prevent this disease, which I believe is largely preventable, and whose natural history, in respect of the relation between inhalation of atmospheric impurities and infection, may be not dissimilar to pneumoconiosis.

Before embarking on a discussion of this disease I ought to define it, but this is difficult for it has a variety of pathological forms,[48,49] there are no specific symptoms or physical signs[50] and there is no agreement as to aetiology. Although a characteristic syndrome of disordered pulmonary function has been described in advanced cases,[51] this syndrome has not yet been shown to be associated with a uniform natural history or uniform pathologic features. But I must attempt a definition, even though it is in wide terms, so that you may know the kind of syndrome about which I am speaking. I am referring to what is commonly called chronic generalised obstructive emphysema, in which there is widespread, irreversible bronchiolar and alveolar dilatation. It seldom occurs before the age of 40 and is much more frequent in men than women. It is associated clinically with asthmatic symptoms and bouts of bronchopulmonary infection. The chief functional disturbances are an increase of functional residual capacity, reduced maximum breathing capacity with expiratory trapping of air,[52,53] increased static but decreased dynamic compliance,[54] and uneven distribution of inspired gas and of ventilation perfusion ratios.[55,56] It ultimately leads to respiratory failure[57] and often to death in cor pulmonale.

It is remarkable how little difference there is between our modern aetiologic concepts of emphysema and those advanced over 120 years ago by Laennec in his original account of the disease.[58] He wrote: "Pulmonary emphysema supervenes almost always to an extensive and severe dry catarrh. In the dry catarrh the smaller bronchial tubes are frequently completely obstructed. . . . It must frequently happen that the air which, during inspiration, had to overcome this resistance opposed to its entrance by the tumid state of the bronchial membrane and the sputa, is unable to force the same obstacle during expiration and remains therefore imprisoned in the cells by a mechanism similar to that of the valve of an air gun."

While modern physiological studies[52,53] have given greater mechanical precision to this concept of expiratory obstruction and have emphasised the role of persistent coughing,[59] they have hardly changed the essentials. There is, however, some difference of opinion on the question of whether bronchitis is, as Laennec postulated, the usual cause of emphysema or whether emphysema is an idiopathic disorder, often complicated by bronchitis. We, in Britain, believe that emphysema is, with rare exceptions, secondary to bronchitis, while here in America there seems to be general support for the idiopathic hypothesis, with bronchitis considered as a frequent complication.[60,61,62] Indeed, in the absence of emphysema or other chronic disease bronchitis is considered to be relatively unimportant. Thus, in the textbook recently published by Dr. Hinshaw and your president[63] we read: "Bronchitis is a benign condition and except in small children is rarely a threat to life and not a common cause of prolonged disability. It is believed that those who are disabled and those who die from what has been called bronchitis are the victims of asthma, emphysema, congestive heart failure, bronchiectasis, tuberculosis, pneumonia and other diseases in which bronchitis is but a minor component." There are others, however, who take a more serious view of bronchitis.[64] This contrast between British and American interest is reflected in our medical journals. For example, during the past five years 27 original articles and nine leading articles have been published on chronic bronchitis in the *Lancet* and the *British Medical Journal*, whereas during the same period the *Journal of the American Medical Association* has indexed only one article on this subject. This may be because the disease is less prevalent and less serious in America, but it may reflect a lack of interest in a common disease.

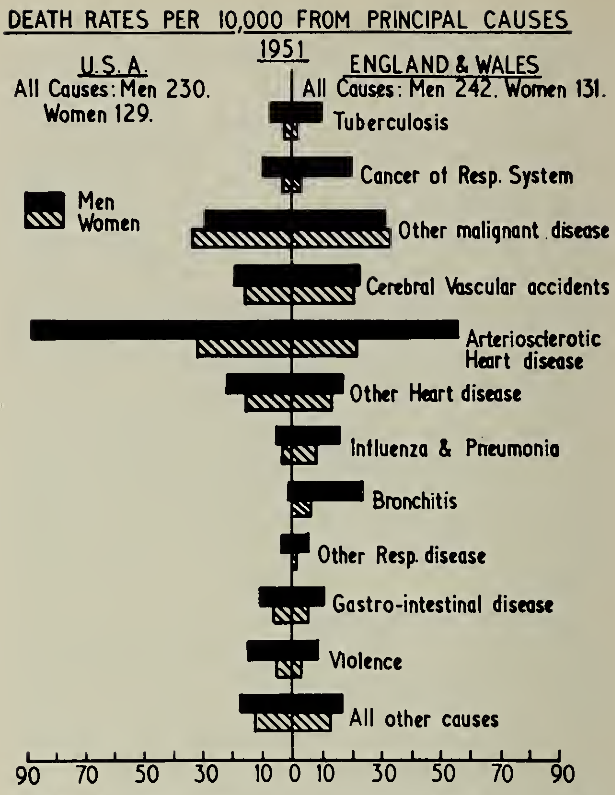

Chart 2.—Death rates from principal causes in men and women aged 55 to 64 in the United States and in England and Wales, 1951.

In England chronic bronchitis figures prominently in our mortality statistics and nearly 10 per cent of all deaths of men over the age of 45 are attributed to it. In the United States of America the position is very different. The death rate attributed to bronchitis is only one-fiftieth of the English rate (Chart 2). There is no other important cause of death for which the rates for the two countries are so divergent, but it is notable that the American death rate for "degenerative heart disease" is almost twice the British rate: It may be that persons who die of emphysema in cor pulmonale are classified under "heart disease" in the United States but under "bronchitis" in Great Britain. We cannot discover from statistics of the frequency of cor pulmonale in series of autopsies or clinical cases whether heart failure of this type is more common in Great Britain than in America, for such figures are so biased by the interests of pathologists or clinicians and by the methods of classification adopted in different places. In White's[65] review of such series the frequency of cor pulmonale in American reports of heart disease ranged from 0.4 per cent in San Francisco[66] to 6 per cent in Chicago[67] and Cleveland.[68] But White commented that "cor pulmonale has been considerably neglected and is probably more common than most statistical studies

TABLE 1.—*Comparison Between Coal Miners, Urban and Rural Males Aged 55 to 64 in the United States and Great Britain*

Author	Population	No.	Per Cent with Low TVC As Related to VC	Per Cent with Chronic Cough and Sputum
Pemberton[71] (1956)	Coalworkers	118	28†	38
	Town (Lynn)	53	14†	14
	Rural (Ayer)	94	19†	14
Higgins et al.[36] (1956)	Coalworkers	132	13‡	32
	Town (Leigh)	84	10‡	18
Higgins[72] (1957)	Rural (Wales)	117	10‡	25

†1 second timed vital capacity less than 65 per cent vital capacity.
‡0.75 second timed vital capacity less than 50 per cent vital capacity.

at present indicate." In Great Britain, Wood[69] estimated that about 5 per cent of cases of heart failure are of pulmonary origin, but Flint[70] reported 40 per cent from the City Hospital in Sheffield. Perhaps we do see more of this advanced disease in our smoky cities than you see here; but we cannot be sure from figures derived from hospitals. Recently, surveys of the prevalence of symptoms suggesting bronchitis and emphysema have been carried out among coalworkers and among urban and rural populations in America by Pemberton[71] and in Great Britain by the Pneumoconiosis Research Unit.[35,72] The only figures available for comparison by age groups (an essential standardisation) are for the timed vital capacity (TVC) as a percentage of vital capacity (used by Pemberton as an index of emphysema) and for the prevalence of cough and sputum, which may indicate bronchitis (since other causes of chronic cough and sputum are rare in the general population). This comparison is made in Table 1. It will be seen that when allowance is made for differences in technique of the TVC estimates and for differences in assessing "chronic cough and sputum" the prevalences are remarkably similar in comparable populations on the two sides of the Atlantic. I am inclined to conclude from this imperfect evidence that chronic bronchitis and emphysema may be more prevalent in America than your low mortality figures suggest.

Since we have such a high level of mortality in Great Britain we can inspect our figures to see whether they give any indications of possible aetiological factors. Since bronchitis, in the absence of emphysema, is rarely a fatal condition, these deaths may be assumed to be due chiefly to the consequences of emphysema. The main contrasts which emerge from our mortality figures[74a,b] are the following:

1. *The Sex Ratio.* At all ages there is a decided male predominance of mortality, which in the ages 45 to 64 is about 4:1. Clinical experience certainly confirms the greater frequency of the disease in men than in women. It also suggests that smoking, particularly cigarette smoking, may be largely responsible for it. Several prevalence surveys in Great Britain have now given support to this hypothesis.[76-81] Indeed, one of these surveys[80] has suggested that the sex difference in prevalence may be almost entirely accounted for by differences in smoking habits.

2. *Social Class.* The Registrar General classifies our population into social classes, on a purely occupational basis, the wives being included in the same class as their husbands. Bronchitis mortality in Social Class V, composed of unskilled labourers, is four and a half times as great as that in Social Class I, the professional and managerial classes. This does not appear to be an occupational effect, since the gradient of social class is the same for females as for males. There must be something in the general environment of unskilled labourers and their wives that causes this great excess of mortality. It may be this concentration of this disease in the poorer sections of the community that has led to its neglect in the past. The social gradient implies environmental causes which may be preventable.

3. *Urban-Rural Differences.* Comparisons between mortality in urban and rural areas suggest that at least one factor in this environment may be the smoky air which those who live in the industrialised parts of our cities are exposed to. Mortality rates for chronic bronchitis rises steeply as we pass from purely rural areas through towns of increasing size to our great industrial conurbations. This gradient has also been shown between the more and less polluted boroughs of the vast conurbation of London.[82] Further important evidence upon the effects of atmospheric pollution as an aetiological factor in bronchitis has been provided by analyses carried out by Reid[83] of sickness absence rates among postmen, all of whom do similar work in different parts of the country, exposed on their rounds to the atmosphere of the areas in which they live and work. When these areas are divided into groups according to an index of pollution based on fog frequency, there is a steady rise of sickness absence rates due to bronchitis, especially in the older workers, passing from the less to the more polluted areas of the country.

4. *Occupation.* It has always been believed that occupational exposure to special pollutants, particularly dust, has been a cause of bronchitis, but in spite of some assertions to the contrary[84] it is difficult to find supportive evidence for this contention from our Registrar General's mortality figures. There are many occupations associated with an increased mortality from bronchitis, but in all of these occupations it is found that the men's wives have the same relatively increased mortality as their husbands.[74a,b-75] This suggests a general social effect rather than an occupational effect for the increased mortality.

I have already commented on the observation that the average ventilatory capacity of coal miners, whether or not they have radiological evidence of pneumoconiosis, is lower than that of nonminers; and that bronchitic symptoms are also more prevalent in miners than in nonminers, both in Great Britain and in the United States. These differences have been attributed to the miner's exposure to dust at his work, but only a slight relationship was found in these surveys between the duration and severity of exposure to dust and the prevalence or severity of the bronchitis or ventilatory impairment.[34] This does not necessarily mean that dust is playing no part, but that other features of the miner's work or environment may be as important.

These trends of mortality and morbidity rates suggest chronic bronchitis arises as a result of atmospheric irritants, of which tobacco smoke and smog appear to be incriminated. Reid[85] recently drew attention to the hypertrophy of mucus-secreting cells in the bronchi of patients who have bronchitis. We may postulate that this may be the earliest departure from normality in the course of bronchitis and may be responsible for the chronic cough and expectoration of the smoker and the town dweller. From the histories we obtain from our patients it appears that at first the phlegm is perennially mucoid. Later, recurrent bouts of infection, chiefly caused by *Hemophilus influenzae* and also *Streptococcus pneumoniae* produce purulent sputum. Perhaps disturbed mucous secretion in some way impairs the defences of the lower respiratory tract against bacterial infection. This infection increases the obstruction to air flow; extending peripherally, it may also result in destruction and fibrosis of the lung parenchyma itself. Thus progressive bronchiolar and alveolar distention and damage, characteristic of emphysema, may occur.

We have here a hypothesis, as yet tested neither by confirmatory observation nor experiment, which has some parallel to our conclusions about coalworkers' pneumoconiosis. I am suggesting that atmospheric irritants produce a bronchitis which is not itself disabling, but which encourages secondary infection and this leads to emphysema with increasing disability. In coal pneumoconiosis the dust deposition in the lung, itself relatively harmless, permits disabling massive fibrosis to develop as the result of tuberculous infection. The course of events in bronchitis and emphysema is almost certainly more complex. The bronchitis itself has multiple aetiologic factors, and variation in the ultimate pathological picture of emphysema suggests that there is more than one course by which this complication may occur. Clinical observation certainly suggests that there are quite distinct varieties of emphysema. We see the rapid downhill course of some of the younger patients with emphysema, in their late forties or early fifties, in contrast to the imperceptibly slow decline in other, and often older, persons. Some patients attribute the onset of dyspnoea to an illness described as pneumonia or acute bronchitis, whereas in other patients the onset is quite insidious. Clearly there are differences, but we cannot elucidate them by this sort of clinical observation, for by the time the patients consult us the origins of their disease are lost in the dim recesses of the past. We may, however, gain useful insight by physiological documentation of these varieties of cases followed by correlation between these findings and the varieties of pathologic changes observed at autopsy.

In the light of my experience with the problem of pneumoconiosis I would suggest that our chief need is to study the natural history of the disease to see whether the hypothesis is correct—and if not, to modify it, and to see the way in which it varies under different environmental conditions. We need to select, observe and follow appropriate samples of various populations over the years to see whether and in what circumstances the apparently innocent condition of chronic bronchitis may lead to the crippling disease of pulmonary emphysema.

To enable us to do this we need to sharpen the precision of our diagnostic tools. It may be more difficult to develop precise and specific diagnostic methods for bronchitis and emphysema than for pneumoconiosis; for we have no characteristic radiological abnormalities to guide us. According to my hypothesis, the earliest abnormality we have to detect is bronchial hypersecretion, producing cough and sputum. Although we clinicians often ignore it, our symptomatic enquiries are subject to serious error introduced by both subject and observer. The possible magnitude of these errors was first shown by Cochrane and co-workers[86] who found that different observers might vary in their estimates of the prevalence of sputum from 12 per cent to 42 per cent in random samples of the same population. I have recently been working on this problem[73] and find that by careful briefing and training of questioners these errors may be reduced. They may perhaps prove to be no greater than those encountered in the reading of x-ray films in pneumoconiosis. I have also found that members of the general population in London are willing to provide specimens of sputum which give reasonable confirmation of their answers to these questions. In respect of the functional consequences of bronchitis, we can have recourse to objective methods of measuring disturbances of pulmonary function. At present the methods that can easily be used in the field measure impairment of ventilatory function[34,36] but can throw little light on its functional origin. But rapid methods of doing more complete functional analyses, which may even distinguish between the different effects of various kinds of emphysema, may soon become available for use in the field.[87]

At this moment in Great Britain, 120 general practitioners are completing a symptomatic questionnaire and doing a simple function test on age-stratified, random samples of their practices, the samples being drawn from the central records kept by the Ministry of Health. We hope to learn more about the urban-rural, occupation, social, and smoking effects upon prevalence. We hope it may prove possible to follow these samples through the years. But other contrasts may prove even more rewarding. I have pointed out the evidence—albeit uncertain—that the prevalence of the disease may be less in America than in England. We need to establish whether this is so by parallel surveys in the two countries. I would be surprised if the mellow and smokeless climate of San Francisco produces as much bronchitis as do the fogs of London, Manchester and Sheffield. But I may be wrong; only planned observations can show.

There is no doubt that the aetiology of bronchitis is more complex than that of pneumoconiosis and its study may be more difficult, but I am sure that the principles of investigation that proved so productive in pneumoconiosis are applicable to bronchitis and its sinister companion, emphysema. The complexity of the problem does not render it insoluble but it does mean that something more than the individual efforts of isolated investigators is required. Clinicians must join forces with their colleagues in other departments in our universities, pooling their resources in a joint attack on this problem.

I should like to end by reiterating my belief in relation to chronic disabling respiratory disease that if, as physicians, we restrict ourselves merely to studying the symptoms about which our patients come to consult us and to attempting to alleviate them, we shall fail to practise medicine in its fullest sense. Only if we extend our interest beyond the clinic and devise means for detecting earlier deviations from health than those which bring our patients breathless to our clinics; and only if we apply these methods to representative samples of the general population and have the patience and determination to observe these subjects through the years, to see how, and in what circumstances manifestations of disease appear, can we hope to achieve our true purpose: the protection of our fellow men from what, on the evidence before us, may be preventable suffering and distress.

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Indications for Lumbosacral Fusion

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• In cases in which operation is indicated, the author advocates routine fusion of the lumbosacral joint in all cases of protrusion of the 5th lumbar disc, providing the spine above that level is considered essentially normal.

He would do spinal fusion in all cases—provided operation were indicated—in which the primary complaint was that of low back pain and in which sciatic pain was absent or minimal. In such cases, the fusion area should extend as far as necessary to include the portion of the spine involved in pathologic change. Only in exceptional cases would spinal fusion be done in patients more than 50 years of age.

With the exceptions noted, all patients requiring reoperation should have the benefits of lumbosacral fusion.

When speakers who took part in a symposium on the surgical treatment of lumbar disc protrusion that was held at the 1956 annual session of the California Medical Association had finished a rather warm discussion, someone in the audience asked, "Well, when do you do a fusion?" Probably a final answer cannot be supplied from today's knowledge, but I believe that there are factors to be considered which were not presented at that time.

How did our present day ideas evolve? In 1911, Hibbs[7] first described a technique for spinal fusion and shortly afterward Albee reported a procedure for this purpose. The first use of operations of this type was in cases of tuberculosis of the spine. Later they were used in scoliosis. Then, in 1914, Hibbs performed a fusion of the lower back for relief of pain in that area. In 1929[8] he reported on 147 such cases. At that time, the prevalent theory as to the cause of low back pain was that it was owing to mechanical defect, either postural or congenital. The indication for operation was the presence of severe or recurrent back pain not relieved by conservative measures, together with roentgenographic evidence of bony abnormality. There was no clear indication as to how many joints should be fused.

In 1932, Chandler[4] described the trisacral fusion —that is, fusion of both sacroiliac joints and fusion of the lumbar spine from the 4th lumbar vertebra to the sacrum. He said at that time that "there is still much confusion as to the diagnostic syndromes differentiating lesions of the lumbosacral junction from the sacroiliac joints." This extensive operation was designed to encompass all possible derangements of the sacroiliac joints and low back. Some surgeons even fused the spine from the second lumbar vertebra to the sacrum.

In 1934, Mixter and Barr[11] demonstrated conclusively that protrusion of a disc was a common cause of low back pain and sciatica and that it could be successfully treated by surgical means. Although this work helped immeasurably to clarify the diagnosis and treatment of low back pain, many problems still remained.

In 1940, surgeons began reporting more than one protrusion observed at the time of operation. Sometimes operation was done and no protrusion could be found; this situation was ascribed to so-called "concealed disc" or "hypertrophied ligamentum flavum." It also was noted that while removal of a classical protruded or ruptured disc brought about prompt and complete relief of sciatic pain, in other less typical cases operation did not bring relief. Many patients continued to have backache of some degree.

In 1941, Barr and Mixter[2] reported upon a series of 193 cases of ruptured intervertebral disc. In some of them spinal fusion was carried out in addition to removal of the protruded disc. The incidence of good results was 20 per cent higher in the group with fusion than in the group with laminectomy only. The indications for fusion in a given case was evidence of spinal instability as observed clinically, roentgenographically or at operation.

There then appeared to be three schools of thought —those who advocated removal of the disc only, those who advocated spinal fusion in all cases and those who felt there was a place for both operations. Clear-cut indications for each were still lacking.

A new aspect of the problem then became apparent—that of pseudarthrosis. In 1937, Kimberley[10] reported pseudarthrosis in 21 per cent of patients who had lumbosacral fusion and in 35.7 per cent of those who had spondylolisthesis. In 1947 Aitken and Bradford[1] reported pseudarthrosis in 7 per cent of cases in which fusion was done for ruptured lumbar disc. In 1948, Cleveland and co-workers[5] reported an incidence of 20 per cent; and they noted also that with repeated operations the incidence of pseudarthrosis increased.

In 1949, Thompson and Ralston[14] reported an

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average incidence of pseudarthrosis in 13.9 per cent of cases of lumbosacral fusion. In cases in which the lumbosacral joint alone was fused, the rate was 12.2 per cent. It was 55.1 per cent in cases in which the fusion extended from the 4th lumbar vertebra to the sacrum, despite the use of screws as fixation for the apophyseal joints.

In the intervening years newer fusion techniques have been evolved, and I believe that in general the surgical technique has improved. This, and longer postoperative immobilization in cases in which several joints have been fused, has brought about somewhat improved results. However, the problem has not yet been entirely eliminated.

Other factors which affect the decision to fuse or not to fuse are the surgeon's ideas as to the cause of low back pain. Before the discovery of the role of herniation of a disc in the production of low back pain, various theories were entertained. As was already mentioned, sacroiliac disease or derangement was believed to be a common factor. In 1934, Ferguson[6] postulated that in some persons the spine is mechanically weak for various reasons such as spondylolisthesis, poor posture, poor body structure, and congenital anomalies of the facets, the vertebral bodies and the laminae. He said that in general these weaknesses are compensated in younger persons but that at about age 40 when muscle tone and power diminish, the compensation also diminishes and backache and pain occur owing to strain on ligaments and muscles.

There have been many surveys made in an attempt to establish the role of congenital anomalies in low back pain. However, these studies have been inconclusive and in view of the proved role of disc degeneration and the increasing incidence of degeneration with advancing age, there seems no strong reason to believe that these anomalies are anything more than incidental in the average case.

It cannot be denied that posture plays a part in low back pain, if for no other reason than that it affects to some degree the site of degeneration of the disc. However, it seems to me that once the disc is so degenerated or so damaged as to give rise to symptoms, the process is irreversible and attempts to correct faulty posture or poor body mechanics are probably useless. With these considerations in mind it does not seem to me that the presence of a congenital anomaly necessarily means an unstable spine; on the other hand, the presence of spur formation or any narrowing of the interspace, in the absence of congenital anomaly at that level, would have to be considered evidence of an unstable joint unless proven otherwise.

Spondylolisthesis is generally considered a common cause of low back pain. Yet, is this not another instance of disc degeneration? It is probable that as long as the disc remains intact the relationship between the vertebral bodies remains the same, but that when the disc degenerates, slipping may occur. Also, when degeneration occurs symptoms are more likely to be present. Since there are no accurate statistics on the incidence of low back pain in the population according to age groups, we do not actually know whether the incidence of back pain in persons with spondylolisthesis is greater than average or not.

The age of the patient is an important factor in considering whether or not to do spinal fusion. The pathologic studies made by Schmorl[13] on the degenerative changes that occur in the disc demonstrated conclusively that the incidence of degeneration increases with age. Evidence of disc degeneration was noted in 50 per cent of all subjects who were between 50 and 60 years of age. Often, however, there is no pain associated with degeneration. Nor does the incidence of protrusion coincide with the increase in degeneration; the peak incidence of protrusion is between ages 30 and 40[3] and after age 40 it drops. The reason for this appears to be that protrusion depends on two factors—degeneration of the disc and sufficient water content in the nucleus pulposus to permit it to be squeezed out of normal position. Although the degenerative process continues with advancing age, the water content is less and the disc firmer. This concept should influence the choice of treatment in individual cases. If the patient is a young person with one protruded disc and all other discs normal, surgical excision of the protruded disc and fusion of the two vertebrae involved will result in an almost normal back. If the patient is more than 60 years of age, has severe pain in the back and legs and evidence of extensive degenerative changes in the intervertebral discs, it is probable that removal of a protruded disc with or without fusion will reduce the pain in the legs but complete relief of the back pain is not likely.

There are psychological factors to be considered in evaluating each patient. Since pain is a purely subjective symptom, the response of the individual to pain has a decided bearing upon the indication for operation and also upon the result. Patients who are involved in severe emotional or environmental stresses sometimes attempt to escape their problems by blaming their situation upon a bad back. On the other hand, adequate and prompt treatment of protruded disc or other condition causing pain may be of great benefit to a highly sensitive, neurotic or psychotic patient.

What can be expected today of operations for intervertebral disc disease? Let me first state that I do not believe we can ever expect to return the patient's back to normal, if by normal we mean a complete unawareness of the back in any and all activities. Such results are usually classified as excellent, and in most series the proportion of excellent results is in the neighborhood of 2 to 3 per cent.

Some years ago, I conducted a follow-up study on about 100 cases in which I had done operations of various kinds for relief of low back pain. Although there was a rather high proportion of replies indicating the patients were satisfied with the result, I was forced to conclude, on the basis of my knowledge of the patients, that most patients minimize their complaints. In general, patients may have stiffness and fatigue in the back but tend to disregard this and do not interpret it as pain. Therefore, I think it is proper in these cases to approach the problem with the idea of improving the condition of the patient rather than with the expectation of eliminating all back discomfort.

What about the economic status of the patient? Since in practically all cases an operation for relief of low back pain is an elective procedure, the economic status of the patient is an extremely important one. If the patient is in such circumstances that he can afford to take time off from work, he has time for conservative treatment and for slow recovery from a given attack. Or, if operation is contemplated, he can afford to have it. But if the patient's income is limited, it becomes the duty of the attending physician to get him well enough to return to work in the shortest possible time and at the least expense. In these circumstances, it is often more practical to advise early operation than to prolong conservative treatment, particularly if the pain is severe and the patient does not respond quickly to the conservative measures.

Industrial injuries are particularly difficult to treat. It is well known that the expectation of final settlement and compensation even after the patient has been treated successfully, sometimes delays complete recovery. If the patient is dealt with in private practice, the problems can be discussed with him and the treatment then depends upon the patient's estimate of his own disability and whether he wishes to undergo operation for the degree of relief that can be expected. In an industrial case, the attending physician must make an independent estimate of the patient's disability, considering the industrial aspects. The recommendation is then made, not so much to the patient as to the insurance carrier. The carrier then may decide to call in other consultants; and not infrequently this compounds the confusion and prolongs the period of disability.

There are many factors in the evaluation of the results in treatment of herniated disc, not the least of which is the viewpoint taken by the person evaluating the result. Early in the history of surgical treatment of disc protrusion, the operations were done chiefly by neurosurgeons. As could be expected, the emphasis was placed upon the degree of relief of pain in the legs, residual pain in the back not being considered of great importance by the operating surgeon. In other series the results were often judged by whether the patient returned to his former work or to some other work. This standard is of limited value; it is probably more useful in industrial than in private cases. Most physicians working in this field are well aware that, economic pressures being what they are, the great majority of patients will return to work in spite of residual disability. The longer the period of follow-up, the greater will be the proportion returning to work.

One of the most careful follow-up reports was made by the Research Committee of the American Orthopaedic Association. In 1952,[12] it reported upon 250 patients with protruded disc who were treated by excision alone. In 59 per cent of these cases results were satisfactory; in the remainder, unsatisfactory. In another group of 118 patients treated by excision of the disc and spinal fusion, some 69 per cent had satisfactory results; the rest, unsatisfactory. The operations in these cases were done in the five-year period 1941-1945. It could be said of this survey that the surgical techniques of today are probably better than in the years covered by the study. On the other hand, the study covered a longer follow-up period than most other series reported.

What results are to be expected from fusion in cases of low back pain without sciatica? From a review of the reported cases, I would place the satisfactory results at about 75 per cent. In some series, the proportion of satisfactory results is reported at 80 to 85 per cent. However, pseudarthrosis in cases of multiple joint fusion continues to be a serious problem.

With the foregoing considerations in mind, let us turn to the indications for fusion of the lower back for patients with or without sciatica. First of all, there are certain general considerations that must be taken into account with regard to elective operations of any kind. One is that the patient should be in good general health, and, for spinal fusion, less than 50 years of age. There are a number of reasons for this age limitation. The incidence of complications such as embolus, thrombophlebitis and infection is greater in persons over that age. The incidence of pseudarthrosis is greater and the prospect of relief of back pain is less because of the greater incidence of degenerative changes in the parts of the spine not operated upon. There are exceptions to this age limit, but not many. Probably the most important indication for operation is disability severe enough to warrant the expense, loss of time and surgical risk. In 1952, Key[9] expressed the opinion that "the decision whether or not to operate upon a disc lesion is based upon the persistence and severity of this pain and disability and the patient's reaction to these symptoms, rather than upon any typical, physical, or laboratory findings."

Decision to operate is usually made following trial of conservative treatment. Ideas of what constitutes adequate conservative treatment vary considerably. I would consider that operation is indicated in the cases of severe acute low back pain and sciatica not improved within two weeks, by bed rest and traction, or in cases moderately improved by this treatment but becoming severe again upon ambulation.

In chronic cases in which low back pain or low back pain and sciatica of a moderate degree constantly or frequently interfere with many of the activities the patient wishes to pursue, it then becomes a question of discussion between the patient and the surgeon as to the relative merits of surgical treatment. In such circumstances, I try to give an accurate picture of the prognosis, then leave it up to the patient to decide.

What kind of operation should be done? In general, I would say if the patient has suffered from backache alone, the only procedure that could be expected to give satisfactory result is spinal fusion. However, I believe that in all cases in which there is sciatica, the spinal canal should be examined for nerve root compression. I would therefore consider that in all cases of spondylolisthesis in which operation is indicated by the foregoing criteria, spinal fusion of the involved segment in the spine should be carried out. I believe that in all cases of protruded disc, if the protrusion is at the lumbosacral level—that is, between the body of the 5th lumbar vertebra and sacrum—and the spine above this level is normal, spinal fusion should be done. I recommend this for several reasons. First, spinal fusion limited to the lumbosacral joint is a relatively simple operation to perform and does not add much to the risk. Furthermore, fusion is successful in a high proportion of cases and usually a long stay in hospital after operation is not necessary. Finally, I believe the result is better if the damaged joint is fused than if it remains mobile.

If the protruded disc is at the level of the 5th lumbar interspace but there is evidence of attrition of the discs or degenerative changes of the spine above that level, spinal fusion should not, in my opinion, be carried out. There would be little advantage to fusing one joint if there were many possible areas that could give rise to backache. Moreover, decreasing the mobility of one segment of the spine is more likely to cause development of symptoms in adjacent segments.

If the protrusion is at the level of the 4th lumbar disc or higher, I do not believe that spinal fusion should be carried out routinely. One reason is that although in most reported series the incidence of satisfactory results is about 20 per cent greater with spinal fusion than with excision alone, the incidence of pseudarthrosis is also greater when more than one joint is fused, and this about offsets the advantage obtained by spinal fusion. Also, as previously noted, I do not believe spinal fusion is indicated for patients more than 50 years of age.

In cases in which reoperation is done because of persistent disabling back pain with or without sciatica, I believe fusion of the affected area should be routine—provided the patient is below age 50. I believe fusion is indicated for patients over 50 years of age who have to have reoperation because of chronic low back pain. In patients disabled by sciatic pain primarily, if sufficient pathologic findings are found to explain the pain and it can be relieved, then fusion is not advisable.

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Diagnosis of Hemorrhagic Diseases

Evaluation of Procedures

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• Routine preoperative tests such as the determination of bleeding time and coagulation time are unnecessary and are not recommended. Rulings which require routine preoperative tests result in the adoption of inferior and unreliable time-saving methods in the laboratory. If the clinical staff insists that laboratory procedures to predict hemorrhage be performed on every patient scheduled for operation, approved methods of performing the tests should be employed.

Preoperative procedures should include a personal and a family history, a careful and complete physical examination and screening laboratory tests such as urinalysis, hematocrit, leukocyte count and smear examination, including estimation of the number of thrombocytes.

Special hemorrhagic studies are indicated on selected patients. These selected patients include those who have a history of abnormal bleeding, those who consider themselves "easy bleeders" or who have apprehension concerning hemorrhage at the time of operation, and those who have physical signs of hemorrhage. Special hemorrhagic studies should also be performed on patients who have diseases that are known to be associated with vascular and coagulation abnormalities, infants who have not been subjected to tests of trauma and on patients from whom a reliable history cannot be obtained.

Extra precaution should be taken if operation is to be performed in hospitals or clinics that do not have adequate blood banking facilities and if the operation to be performed is one in which difficulty in hemostasis is anticipated.

The preoperative tests that are indicated on selected patients should include as a minimum: The thrombocyte count, determination of the bleeding time by the Ivy method, determination of the coagulation time by the multiple tube method and the observation of the clot. Where facilities are available, the hemorrhagic study should also include the plasma and serum prothrombin activity tests.

PART II

Preoperative Tests

ROUTINE PREOPERATIVE TESTS to predict hemorrhage in patients would be indicated if there were simple and reliable tests which would reveal abnormality of hemostatic mechanisms with reasonable accuracy. Routine tests for hemorrhagic disease would be indicated if there were a surplus of trained technologists and unlimited funds available. Unfortunately, there are no simple or complicated tests that are infallible in predicting the tendency to bleed. There is a shortage of technologists and cost must be considered.

In the opinion of the author, extensive and careful hemorrhagic studies should be made on patients whose history, physical examination and screening laboratory tests indicate the need for such tests, but these studies should not be performed routinely on every patient scheduled for surgical operation. Routine hemorrhagic tests are not specified by national surgical and hospital agencies which set the requirements for procedures in approved hospitals. A surgeon would not be considered negligent if he did not perform routine preoperative tests for bleeding time and blood coagulation.

Staff and hospital rulings which require routine preoperative tests for hemorrhagic disease force the laboratory to adopt time-saving and inferior methods. The bleeding time is usually determined from a puncture wound of the thick, elastic and self-closing skin of the finger tip. The clotting time is one of the micromethods which utilize a few drops of blood well mixed with thromboplastin from the same skin puncture wound. These two procedures can usually be performed within five minutes and, if necessary, while the patient is being wheeled to the operating room or is being draped for operation. More accurate methods such as the Ivy bleeding time method or the multiple tube coagulation time method would require 30 to 45 minutes of the technologists' time. Observation of the clot, which should be part of any hemorrhagic study, would require additional time.

The pathologist is aware or should be aware that the tests performed are not acceptable from a scientific standpoint; but he does not insist on making a change, for he does not have the technical staff required to perform the tests in an approved manner. He often does not have the missionary zeal that is required to change a traditional hospital custom and does not have the fortitude to buck the edicts of a dictatorial and omnipotent clinical staff. The hospital administration is not interested in losing a source of steady revenue. The surgeon heartily approves, for he believes that reliable methods are being used and

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that his patient will not bleed abnormally since the laboratory results are normal. Everyone benefits except the patient who is not protected, but who pays for a service he does not receive.

In the past, the performance of the finger-tip bleeding time and the capillary tube clotting time was an accepted and standard practice and afforded the surgeon, the laboratory director and the hospital administration a degree of medicolegal protection which comes from the performance of the usual and customary procedures. Such procedures will not, in the light of present knowledge, continue to be accepted.

The acceptable practice at present should be to obtain a personal and family history from the patient and to ask him specific questions about abnormal bleeding following trauma, about spontaneous bleeding from mucous surfaces, and about ease of bruising. The surgeon or his assistants should also be expected to examine the patient before the operation and to order the usual screening laboratory procedures, such as the hematocrit, the white cell count, the blood smear examination and urinalysis. The examination of the blood smear should not be limited to the differential count of the leukocytes, but should include an appraisal of the erythrocytes and an enumeration of the thrombocytes in terms of number per oil immersion field. If the technologist is instructed to report any abnormality of bleeding following skin or venipuncture, the patient will receive the same so-called determination of "bleeding time" he now receives, without a special order or an extra charge.

If the physician desires to shift the responsibility for the detection of hemorrhagic disease to the laboratory and if he expects the examination to be performed in five or ten minutes, the technologist should be given a check list of questions to ask the patient and should examine the skin and the mucous membranes. The history and superficial examination performed by a technologist would be more likely to reveal a tendency to bleed at the time of operation than would the performance of laboratory tests, such as making a few passes at the patient's finger tip with a wisp of cotton and pantomiming the clotting time by a few gestures with little glass tubes. Such token tests belong in the class of voodoo and witchcraft and should no longer be tolerated in the age of thromboplastin precursors and accelerator factors.

There is no contraindication to the performance of routine preoperative tests if the surgeon, the hospital administration or the patient desires such procedures. The contraindication is the use of methods which are not acceptable. If the hospital, clinical staff or laboratory directors insist on routine preoperative tests by approved methods, additional technologists must be employed, an extra hospital day for preoperative tests must be allowed and a significant increase in the charge for the procedure must be considered.

It has been the author's experience that the difficulty in hemostasis at the time of operation does not occur because the surgeon does not order routine hemorrhagic tests, but because he does not obtain an adequate history, because his physical examination of the patient is incomplete and because the screening laboratory tests were inaccurately performed or the results of the tests disregarded. One fatality due to hemorrhage following tonsillectomy and adenoidectomy occurred in a child with leukemia who had enlarged tonsils and palpable cervical nodes. The bleeding time and coagulation time by the methods employed were normal. The generalized lymph node enlargement and slight splenic enlargement were not detected. No attention was given to slight leukopenia and an abnormal differential count.

Another death due to hemorrhage occurred in a woman admitted to the gynecological service because of uterine bleeding. Preliminary studies revealed anemia and leukocytosis. The examination of the blood smear did not include the enumeration of thrombocytes. Following dilation and curettage, uterine bleeding was excessive. Multiple transfusions were ineffective. Hysterectomy was performed. The patient bled to death postoperatively. The diagnosis was thrombocytopenic purpura. On re-evaluation of the case and on re-examination of the blood smears, it was obvious that the catastrophe could have been prevented if a more careful history had been obtained, if attention had been given to the few petechiae on the skin and if the technologist had examined the smear properly and had reported the thrombocyte deficiency. In this patient there was a clear indication, not for a routine finger-stick bleeding time and capillary coagulation time, but for a special hemorrhagic study, for the patient was admitted to the hospital because of abnormal bleeding.

Routine preoperative tests cannot possibly predict bleeding which develops as a result of the sensitivity to drugs or to injections given at the time of or following operation. No tests have been devised which can anticipate the development of fibrinogenopenia and fibrinolysis at the time of operation. Most of the troublesome hemorrhagic complications develop several days or weeks after the operation. Preoperative hemorrhagic tests reveal the reaction of the patient or his plasma under preoperative conditions and cannot possibly anticipate phenomena that may develop at a later date as a result of new etiologic agents.

Routine preoperative tests performed by the most acceptable methods and by the most skilled technologists will not detect hemorrhagic disease in all patients with hemorrhagic disease. In vascular diseases such as hereditary hemorrhagic purpura (pseudohemophilia), purpura due to allergy, thrombasthenia and the milder forms of classical hemophilia or deficiency of plasma thromboplastin component and plasma thromboplastin accelerator, the bleeding time and the coagulation time may be within the range of normal variation. In patients with these conditions, the diagnosis is made by the history and the special and more sensitive tests, and not by routine tests, which are usually erroneous because they give results of a false negative type.

SELECTION OF PATIENTS FOR SPECIAL PREOPERATIVE TESTS

Although it is not recommended that preoperative tests for hemorrhagic disease be performed routinely, it is recommended that more complete tests be performed by experts on selected patients who are scheduled for surgical operation.

If patients are admitted with severe hemorrhage from any site, and particularly if they are bleeding from multiple sites, the basic tests for vascular and plasma deficiency components should be performed at the time the blood is taken for typing and cross-matching. If technologists are not available at the time, the physician should personally observe the clotting time of the blood, the character of the clot and the ease of bleeding following skin puncture. He should personally see that smears are made to appraise thrombocytes and to rule out primary blood dyscrasias such as leukemia and aplastic anemia. After transfusions have been given, the blood to be tested is no longer the patient's blood, but a mixture of the patient's blood and the citrated blood of a normal donor.

If the patient is admitted to the obstetrical service because of uterine bleeding, it is imperative that the clotting time be determined immediately and that the clot be saved for observation of its character and lysis. If the clotting time is short or normal, if the clot is firm, and if it retracts and holds the major portion of the erythrocytes within the fibrin mass, fibrinogenopenia can be excluded. If the blood clots slowly and if the clot is friable and tends to liquefy or if the fibrin web on retraction fails to hold the red cells in its meshes, the diagnosis is fibrinogenopenia and fibrinolysis (see Figure 1). In case of doubt, fibrinogen or fresh plasma and/or whole blood should be given immediately. By saving the first blood clot and by performing serial coagulation studies, saving each clot in turn for observation and comparison, the treatment of the patient and his response to therapy can be evaluated.

Preoperative hemorrhagic tests should be performed on all patients who have a personal or family history of abnormal bleeding, on all patients who have physical signs of hemorrhage and on all who have systemic diseases which are known to be commonly associated with hemorrhagic tendencies (leukemia, nephritis, cirrhosis or lupus erythematosus). A battery of studies for the detection of hemorrhagic abnormality should be performed on all patients who think that they are "easy bleeders." Apprehension on the part of the parents of a patient is sufficient indication for the performance of screening tests, provided that the tests performed are acceptable tests such as the Ivy bleeding time test, the multiple tube coagulation time test, the observation of the clot and the evaluation of the thrombocytes.

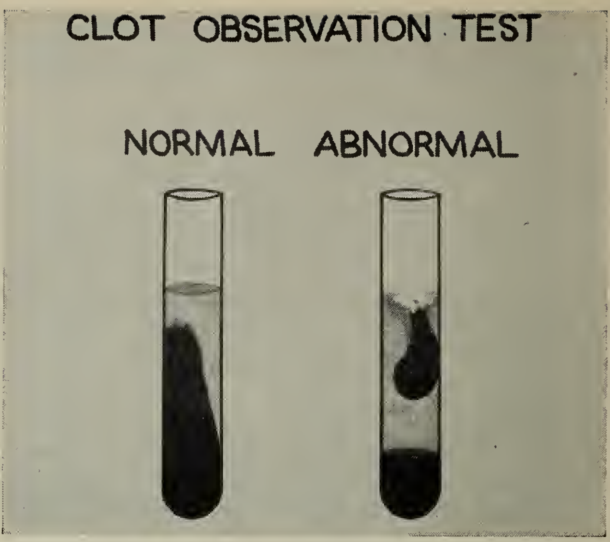

Figure 1.—Character of a normal clot compared with a defective clot from a patient with fibrinogenopenia. (Modification of an illustration that appeared in "Hemorrhagic States During Pregnancy" by O. D. Ratnoff, J. A. Pritchard, and J. E. Colopy in the New England Journal of Medicine, 253:63-69, 97-102, July 14 and 21, 1955.

The preoperative precautions taken depend somewhat upon the nature of the operation contemplated, the qualifications of the surgeon and the facilities available at a given hospital for emergency transfusion. Patients scheduled for pulmonary and cardiovascular operations should have special studies performed preoperatively. Hereditary defects in the blood coagulation components are more common in patients with congenital heart lesions than in normal persons. One would be more hesitant to risk abnormal bleeding in a small rural hospital without a blood bank than in a large general hospital with adequate transfusion facilities.

Tests for hemorrhagic disease are indicated on patients scheduled for operative procedures, who are not able to give a reliable history. Circumcision and other operations on infants should be preceded by screening tests for abnormalities in bleeding and in coagulation. Here it is indicated and justified to determine the coagulation time by an admittedly inferior micromethod, since puncture of superficial veins in infants is difficult and often impossible. Aspiration of blood from the femoral or jugular veins is contraindicated, for deep vein puncture in patients with hemophilia or other severe hereditary

Figure 2.—Sample of sheet for reporting and interpreting results of special hemorrhagic tests in selected cases

Name of Patient____Date__________
________________________Age______Sex________Referred by________________

HEMORRHAGIC STUDY

	Patient	Normal
Bleeding time (Ivy method):		
Free flow	________	1 to 6 minutes
Oozing of blood-tinged fluid	________	1 to 4 minutes
Capillary fragility (tourniquet test)	________	No petechiae
Clotting time (4 tube method):		
Tube 2:______ 3:______ 4:______ Average:	________	Less than 25 minutes
Observation of the clot:		
Volume of serum expressed	________	40 to 60 per cent
Volume of clot	________	
Packed cell volume (per cent)	________	
Fluid volume of the clot (per cent)	________	0 to 20 per cent
Description:		
Thrombocyte Count (No. per 100 oil immersion fields)	________	500 or more
Plasma prothrombin activity (Quick's method)	________sec.	________sec.
Serum prothrombin activity	________sec.	________sec.

Other tests:

Interpretation:

Examined by________________________

hemorrhagic anomalies may be followed by massive extravasation of blood. In the taking of blood for determination of coagulation time by one of the micromethods, the heel or toe should be punctured with a surgical blade and freely flowing blood obtained in order to avoid admixture with tissue thromboplastin. A deeper wound and rupture of larger vessels is also indicated to test the effectiveness of the vascular mechanisms. Recurrence of bleeding after cessation, or the necessity of applying a pressure bandage to staunch the flow of blood, is a warning against elective surgical procedures. The surgeon on operating on infants and on patients on whom an adequate history has not been obtained should, after making the first incision, pause a few minutes to see whether or not there is adequate hemostasis at the time of incision, without hemostats or ties, before going into the deeper tissues.

If there is excessive bleeding from an operative wound, specimens of this blood which are so readily and copiously available should be placed in a test tube or medicine glass and examined. The clotting time of such blood and the character of the clot will be of immediate value in making a decision as to whether to cut or to sew, to proceed or to "back out."

SELECTION AND PERFORMANCE OF TESTS

In patients scheduled for operation on whom special hemorrhagic studies are indicated, the minimal procedures should include the blood smear examination, including an estimate of the number of thrombocytes per 100 oil immersion fields, determination of the bleeding time by the Ivy method, the tourniquet test, determination of the clotting time by the multiple test tube method and the observation of the clot. Other tests which are recommended in patients who have a history and signs of hemorrhagic disease, or who have diseases known to be associated with hemorrhagic tendencies, are the plasma and serum prothrombin activity tests (Figure 2). The performance of the battery of hemorrhagic tests should be scheduled at a time that is convenient to the technical staff and should not be ordered or considered as a part of the daily routine. The results of these special tests should be reported on a special sheet (see Figure 2) and the findings interpreted by a physician who is familiar with the methods used, the normal values of the methods and the significance of the combined tests.

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Cobalt Folliculitis

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• Clinical observations in 60 cases of folliculitis or pronounced activation of acne in patients taking cobalt led to conclusion that the development or aggravation of the dermal lesions were owing to ingestion of the metal. The dermal manifestations abated when use of cobalt was discontinued. Active acne is considered a contraindication to the use of vitamin-iron-mineral supplements containing cobalt.

Short courses of antibiotics in addition to regular acne regimen helped shorten the course of the eruption.

An annoying reaction to the ingestion of cobalt chloride in hematinic and vitamin-mineral preparations has been observed by the authors.

Cobalt preparations combined with iron are being extensively used in therapy of certain anemias[2,9,10] and as general tonics. Except for reports of thyroid hyperplasia and hypothyroidism,[6,7] which have not been confirmed by additional studies,[3,4] no significant toxic manifestations in cobalt therapy have been published.

CLINICAL OBSERVATION

During the past two years, we have accumulated a series of 60 documented cases of folliculitis, acneform eruptions, and aggravation of preexisting acne in patients receiving cobalt chloride. The most severe manifestations appeared in patients who were taking cobalt-iron preparations, but others occurred in patients taking various vitamin-mineral combinations that contained cobalt. Vitamin B_{12} preparations containing cobalt given parenterally have also been found to produce similar skin manifestations in some instances. Care was taken to rule out the possibility of other trigger mechanisms as etiological factors before attributing the eruption to cobalt ingestion.

This reaction was observed in persons from 10 to 58 years of age, predominantly in females. In 20 cases, which have been classed as primary, the eruption developed in essentially normal skin. In 40 cases, classed as secondary, the eruption constituted an aggravation of existing acne or reactivation of preexisting acne. The period of ingestion of cobalt before the reactions appeared varied from one to ten weeks.

SKIN MANIFESTATIONS

In the primary cases, folliculo-pustules or papulopustules developed over the face and trunk. These lesions appeared in from three to ten weeks. Comedones were absent in this group.

In the secondary group, the pustular, nodular and cystic lesions of acne were aggravated, in most cases within one to three weeks after the patients began taking cobalt.

After it was determined that folliculitis and aggravation of acne were ascribable to ingestion of cobalt, a group of patients with acne were given a cobalt-iron preparation by mouth. In all cases increased pustular activity developed within one to two weeks. Several patients without acne were also given a cobalt-iron combination and pustular lesions developed in two to four weeks in them also.

In addition, a number of patients with acne were given a weekly injection of vitamin B_{12} (cyanocobalamin), while a control group received injections of another vitamin without cobalt. Over 50 per cent of the group receiving vitamin B_{12} noticed a definite increase in pustular activity of acne three to four days after the injection. There was no similar activation in the control group.

BIOPSY

Biopsy of a typical lesion of the type occurring in previously normal skin showed a superficial abscess in the epidermis and upper corium with predominance of polymorphonuclear neutrophils (Figure 1). Follicular plugging was not seen.

THERAPY

In the primary group, the lesions tended to clear spontaneously after the elimination of cobalt. Disappearance of the folliculitis usually occurred gradually in four to six weeks. The rate of improvement appeared to be related to the severity of the eruption and the amount of cobalt ingested. The period of involvement could be greatly shortened by the use of antibiotics of the tetracycline group and erythromycin group.

In the secondary group, aggravation of the acne-

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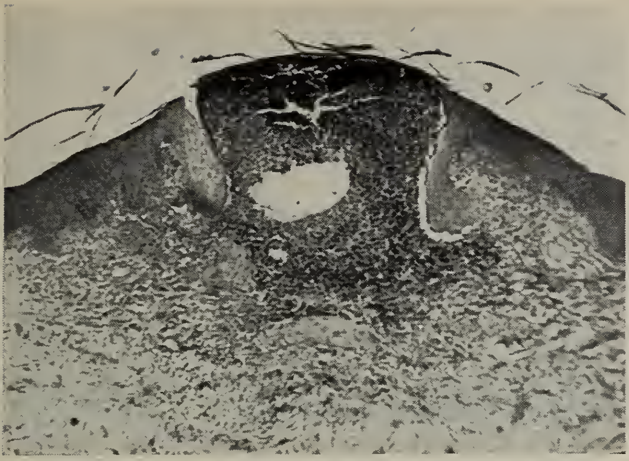

Figure 1.—Biopsy specimen of lesion occurring in previously normal skin. Note superficial abscess in epidermis and upper corium (×100).

form eruption was more persistent but again was shortened by the use of antibiotics in addition to routine acne therapy.

COMMENT

Investigative work, primarily by Faguet, at the Pasteur Institute,[1] has given a plausible explanation for the development of folliculitis in patients receiving cobalt. Faguet noted that the addition of small quantities of cobalt chloride increased the growth and multiplication of staphylococcus aureus in cultures. It is significant that these same studies, as well as others by different investigators, indicated that when penicillin, streptomycin or bacitracin were added to such cultures of staphylococcal aureus containing cobalt, the inhibitory effect of the antibiotic was enhanced[5,8,11] two to ten times. This probably is due to the fact that these antibiotics act on the bacteria during their dividing stage. No benefit was noted in similar cultures combined with oxytetracycline, chlortetracycline, chloramphenicol or polymyxin.

Since cobalt is tightly bound to the cyano group in cyanocobalamin, the mechanism of its action in aggravating folliculitis cannot be explained on the basis of the experimental work cited. Further investigation will be necessary to explain the increase in activity of acne in patients receiving vitamin B_{12} preparations.

In addition to the 60 documented cases in this report, an increasing number of cases have recently been observed. In view of this, an examination of vitamin-mineral combinations and hematinics available in our pharmacy was made. Forty-four preparations for oral use containing cobalt were found to be stocked and in common usage. These contained from 0.033 mg. to 3.7 mg. per capsule. Preparations containing the larger amounts of cobalt produced the most severe reaction.

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Group Psychotherapy for Criminal Offenders

A Program for Parolees Under Social-Psychological Coercion

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• Selected prisoners, most of them with severe character disorders, are permitted to serve the remaining portion of their sentence on parole in the community on condition that they be patients in psychotherapy at a psychiatric clinic created in 1953 for this purpose. Nearly all the patients begin without personal motivation for such treatment. Attendance has been attained because parole officers are assigned to the task of enforcing attendance.

Coercion can bring these reluctant patients to expose themselves to treatment, but staff members then have the task to overcome hostility, combat extensive rationalizations, and transform an initially poor rapport into patient participation in working through major personality change.

This clinic provides an interesting laboratory for the development of a psychiatric treatment program for adults who have not responded well to a great variety of forms of correctional care.

THIS presentation describes the treatment program of a state psychiatric clinic for the outpatient psychotherapy of adult male criminal offenders after their release from prison. The clinic's patients are coerced into attending by the fear that their freedom will be taken from them by return to prison if they do not.

Psychotherapy in such circumstances poses a number of questions. As a purely practical matter, will these patients keep their appointments—will they be physically present for the psychotherapeutic relationship? In this coercive atmosphere, will the psychotherapeutic process produce enough change to be worthy of the name, or will treatment be merely simulated, a going through the motions? Is the psychotherapist morally justified in attempting to force changes in the mind upon these unwilling nonpsychotic persons, or is this a violation by the state of basic human rights—a kind of brainwashing? Is the expenditure of public funds for a psychiatric clinic of "captive" patients appropriate while mental hygiene clinics, due to insufficient funds, have long waiting lists of persons anxious to be patients?

BACKGROUND

The magnitude and repetitive nature of criminal behavior are fundamental factors in the rationale of the program. In the American population more than two and a quarter million persons annually commit known serious offenses.[3] Four out of five men committed to California prisons during 1955 have records of previous correctional confinement.[1] In this state's prison system (organized since 1945 into the Department of Corrections) the majority of recidivistic criminal offenders are viewed as not only socially deviant; they are also regarded as mentally abnormal.[5] Much interest exists in the development of a comprehensive program to effect changes in the personality of the offenders, in addition to controlling them for the protection of potential victims.

A crucial administrative consideration is the fact that almost all of these offenders will be released from prison. There are a number of factors which combine to bring about this situation:

¶Prolonged imprisonment, while protective of the community, is believed to serve no useful purpose for most prisoners. It is generally regarded as traumatic for a human being to be so restricted in freedom, emotionally isolated from the family, and sexually deprived. Certain offenders who will not commit further offenses after release cannot be distinguished at high levels of predictive confidence from the potential recidivists. And it is expensive to keep offenders in institutions continuously and indefinitely. An enlightened society prefers not to lock people up forever.

¶The indeterminate sentence, functioning in California since 1917, provides for release on the principle of fitting the sentence to the personality of the criminal, not only to his crime. Nearly all offenders are committed under this law to the Department of Corrections for an indeterminate period, such as one year to life. A determinate sentence is set later by a board, the Adult Authority. This board has been described as making decisions both on the basis of its judicial powers, considering the seriousness of the offense, and also on clinical considerations, evaluating past psychological development and current personality functioning.[2]

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This paper does not necessarily reflect policy of agencies with which the writers are associated.

¶Parole facilitates release of prisoners. Supervision of offenders after release from prison is an instrument for the protection of the community by intervention whenever the offender is recognized to be regressing antisocially, and for assistance to the offender in his transition from controlled institutional living to freedom in society.

All of this means that most prisoners, including the many who have committed aggressive antisocial depredations upon the person and property of victims, will return into the community after several years of institutionalization. In the light of statistics on recidivism, these persons are sufficiently dangerous that the public has no choice but to act decisively if it is to have any reasonably safe program other than lifetime imprisonment.

The Department of Corrections and the public look to psychiatry, with its body of knowledge of character development and motivations for behavior and its psychotherapeutic skill, to join with correctional personnel in the development of a program of necessary action. If psychiatry as a profession does not meet these expectations, California's correctional program will not resign its efforts to develop a program aimed at personality change; it will be limited to the methods of allied fields.

THE EMERGENCE OF AN OUTPATIENT CLINIC

In July of 1950 the Department of Corrections created a hospital for its prison system, the California Medical Facility (CMF). Psychiatrists were appointed to the positions of Superintendent and Clinical Director and were provided with a psychiatric team consisting of social workers, clinical psychologists and psychiatrists, including the senior author. Within a short time, the Clinical Director had organized most of the inmate population into therapy groups.[8]* Currently, 11 therapists treat the majority of the inmates of the Medical Facility, about 1,100 men, in psychotherapy groups throughout their institutional stay. Most groups range from six to twelve members and meet twice weekly.†

Psychiatric personnel in mental hygiene clinics and in private medical practice have tried to treat criminal offenders after their release from prison. There have been many unsatisfactory experiences with this group of patients during the periods these offenders are in the community. Most psychiatrists avoid accepting such persons for psychotherapy, or limit themselves to a few for training or research purposes.

Among the factors which have combined to bring about this rejection are absenteeism of these patients from scheduled appointments and the unrewarding nature of the treatment experience for both the patient and the therapist. In his usual practice a therapist derives satisfaction from helping the patient master immaturity and irrationality, and obtains gratifications from close relationship with stimulating personalities. But psychotherapeutic work with prisoners on parole is largely barren of these psychic compensations. It is often uneconomic for the clinician, in time, in energies and in fees collected, to treat such patients over a long term. Many patients repeatedly neglect to appear for appointments, and the time then is eventually offered to numerous psychoneurotic and psychotic patients more desirous of help who are waiting to take the place of the absent, inadequately motivated parolees. The net result is that, for all practical purposes, psychiatric facilities of the community do not treat parolees.

Creation of a state psychiatric clinic for paroled criminal offenders provides, in the community, a program analogous to the California Medical Facility's treatment program for offenders during their imprisonment. The clinic's present staff consists of a psychiatrist (the senior author)* and three clinical psychologists. A psychoanalyst consults biweekly.

THE TREATMENT PROGRAM

The patient is virtually forced to keep appointments at the clinic: The Adult Authority permits the prisoner to serve the remainder of his sentence in the community only on condition that he participate in psychotherapy at the clinic. Parole officers are assigned the task of enforcing attendance and they use the implicit or explicit threat of return to prison. Within this legal-administrative structure, the psychotherapists endeavor to develop a treatment situation. The Adult Authority facilitates this effort by providing for protection of the confidential nature of the patient-therapist relationship. When problems arise concerning the privacy of information given by the patient in the clinic, the final decision as to whether it can be made available to any other agency or person is vested in the psychiatrist. The Department of Corrections thus has provided psychiatry a genuine opportunity to perform this clinical experiment in keeping with its professional standards.

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*The consultant psychoanalyst has reported upon clinical aspects of this program.[7]

†At present about 10 per cent of the approximately 16,000 persons confined in prisons in California are transferred to the Medical Facility and receive psychiatric treatment there. Several of the state prisons have psychiatric staffs engaged in treatment. Efforts at achieving personality changes are not confined, of course, to psychotherapy. Custodial and other correctional personnel are endeavoring, for example, to establish relationships with criminal offenders in small group settings in an introspective atmosphere. In 1954 the Deputy Director of the Department of Corrections personally initiated this group counseling program at the Folsom State Prison, and subsequently at other prisons throughout the State.[4] Sometimes the counselors obtain consultation from members of the psychiatric team. More than 7,000 criminal offenders, approximately half of all persons confined in California prisons, are currently members of these weekly counseling groups. A less intensive group meeting program is also being developed by parole officers for men after release from prison.

*He resigned from the Department of Correction, November 1, 1957.

During the four years of the clinic's existence, over a thousand men have been referred and evaluated; one third of this number have been accepted as patients and treated. Almost 90 per cent of the patients are diagnosed as having personality disorders. About 10 per cent are diagnosed as psychotic and as having brain damage. Psychoneurotic persons, who are most amenable to psychotherapy and who constitute the bulk of patients generally selected for psychiatric treatment in outpatient settings, comprise 2 per cent of the patient load. Irrespective of diagnostic categories, the degree of impairment is diagnosed as severe in 90 per cent of all patients.

At present there are 160 patients being treated in 24 psychotherapy groups averaging seven members per group. Group sessions are 60 to 90 minutes in duration and they are held once or twice weekly. A few patients are treated in individual psychotherapy in addition to group psychotherapy; and a few receive individual therapy only, either because they are too disturbed to be treated in an outpatient group setting or there is no appropriate group for their psychiatric needs.

THE PROCESS OF PSYCHOTHERAPY

Patients at this clinic are, for all practical purposes, unmotivated for psychotherapy. It is the staff's experience that virtually all the patients enter into an initial prolonged negative transference situation. Resistances are pronounced, hostilities aggressively displayed, rapport poor. Verbalization is devoted to everyday trivia; there is virtually no introspection nor association of early biographical events. Denial, projection and a wide variety of rationalizations are extensively employed.*

Usually for a long time the therapist reports he can do little more than repetitively offer the simplest of interpretations and reflect back patient hostilities. Questions are frequently asked of the therapist in apparent receptive passivity. Yet, whenever the therapist complies even minimally, reactions are typically resentful. Often, it is as if the patient's passivity becomes replaced by his aggressive strivings for independence. Until the patient reaches the point of actively trying to help himself, with the therapist's and the group's assistance, interpretations seem to fail to reach him emotionally. They appear to be warded off effectively by resistances. Progress in basic personality change is very slow. Then, as therapy has its impact over the long term, anxiety and limited motivation develop. Positive transference features appear. There is a late appearance of observing ego and of the patient's recognition and eventual acknowledgment of some of his own role in his problems. His verbalizations become less exclusively projections, rationalizations and trivia. He becomes introspective and gradually reveals biographical material.

Thus a relationship begun under coercion usually becomes somewhat therapeutic. However in almost all cases there is doubt about the extent of the personality changes. The clinic has now been in existence long enough to make possible a statistical analysis of recorded data on recidivism of its patients. But even without such a study, the job of treating such severe character disorders so late is often looked upon by the staff as more than can be met by the capacity of the clinic's present program.† There is too much case by case evidence that many of the patients fail to acquire the inner controls they need to protect society and themselves from the risk of breakthrough of their aggressive and immature impulses in antisocial directions. Even when psychological changes occur, they are often too limited to result in changes in ways of life sufficient to reduce the probability of antisocial reaction to the same kinds of environmental pressures which were associated with previous criminal behavior.

Most of the patients at the clinic do much searching for an acceptable excuse in their efforts to evade clinic appointments. They try to manipulate their parole officers and their therapists to function at cross purposes. Many denounce the clinic and parole office personnel to one another. Frequently they attempt to form a "friend without influence" relationship both with parole officers and therapists.

In the interaction of psychotherapists and parole officers, both working with the same prisoners, a paradoxical role reversal exists: Parole officers have often been stereotyped as punitive, psychotherapists as permissive, supportive, and understanding. Actually we find that the criminal offender experiences these roles as exchanged. The parole officer is a "practical" friend. He assists in location of jobs, in finding places to live and in provision of meal tickets and lodging tickets when the parolee is unemployed. The parole officer, influenced by a social work philosophy, endeavors to establish, maintain and nurture rapport. In this effort, many parole officers tend to be accepting, understanding, supportive and giving, within the limits of the supervisory framework.

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*The experiences at the clinic closely parallel Redl's.[6] The staff has encountered a large number of stereotyped rationalizations and other defenses frequently verbatim of those reported. As it has been put so well: "[delinquent] behavior is not harder to read than that of a neurotic; it is only more difficult to bear." Among the numerous defenses described by Redl are: "expertness in manipulation," "organized defamation," and "friend without influence," designating the latter as one of the most difficult problems that exist in the training of teachers, group leaders and personnel in correctional supervision.

†The presumption that insufficient success in treatment of these patients may be because "too little is given too late" is quite common with regard to mental health services which usually have fewer resources than is deemed desirable by the persons responsible for their administration.

Upon the context of this ideology a psychiatric clinic is superimposed. The parole officer has a therapeutically subsidiary status insofar as he is assigned the task of enforcing parolee attendance. This places the parole officer in a position in which he is expected to exert pressure to overcome what the clinic staff regards as patient resistance to attendance at the therapy session, even when resistance is realistically grounded on the excuse that attending interferes with employment opportunities. Whenever the parole officer functions in this enforcement role, the rapport for which he has worked is jeopardized. Parolees may react by regression in attitude and behavior toward the officer. This may create doubt in the thinking of the officer about the value of the clinic. Its services sometimes create a problem for a parolee who has a good job and who gets along without violating any other condition of parole except clinic attendance. The officer may come to view the psychotherapist as an authority figure. The patient may reinforce this idea out of resentment toward the psychotherapist, who believes that he must be unyielding about attendance at the clinic if psychotherapy is to take place.

This program raises many questions. Is the underlying psychiatric theory valid? Is it operationally useful to view most offenders as psychologically ill? If so, is psychotherapy really the method of choice for all the patients accepted by the clinic? Even if this is the case, what kind of coercive methods are appropriate? And are there certain offenders who require, in addition, environmental care and control not currently provided by parole supervision.*

There also is the problem of the psychic consequences for patients when they are required to be in group psychotherapy without adequate inner motivation. Are some precipitated into psychotic states or into defensive acting out by committing new crimes, thus removing themselves from further ego-disturbing pressures of treatment? Do some protect themselves from the psychotherapeutic process through shammed acquiescence? Perhaps those who do "protect" themselves in this way are the very ones who attend regularly, are compliant and praise the program—qualities that are viewed favorably by administration. On the other hand, the compliant patients may expect the therapist to "reward" them with not threatening their psychological defenses. In other words, are there patients who will comply with the requirement that they attend group therapy sessions in return for not becoming emotionally involved in the process? Discussion of these topics awaits further study.

In summing up, it may be well to recall the theoretical issues raised at the beginning of this paper to see how they can be viewed in terms of the data presented.

Through coercion, the actual physical presence of the patient in group psychotherapy sessions at the clinic has been obtained about 90 per cent of the time. In the first three years of the program absenteeism from scheduled psychotherapy sessions was about 25 per cent, but during the last year this has been reduced to 10 per cent through the development of improved enforcement procedures by field parole services. But attendance is only a means to the therapeutic goal; it is no guarantee of attainment of the goal.

Is forcing psychotherapy upon nonpsychotic patients in the community morally justified? This question arises from the human right to be what one wishes to be, and the measuring of this right against the rights for protection of the other persons who compose society.[10] The clinic, of course, is not the only treatment program under compulsion. An entire branch of psychiatry—the care of psychotic patients in hospitals—operates in part on this principle. The same is true of allied fields, such as social casework in authoritative settings.[9] Does the clinic's program really reflect a different theory? In view of past offenses and probability of recidivism, these criminal offenders, if left untreated, remain a social menace. What about their potential victims, the persons they might rob, murder or otherwise injure? The failure to treat would be an even more serious ethical problem.

Finally, the question need be faced, how effective with this population is group psychotherapy under coercion? No definitive answer can be given to this evaluative question at this stage of development. The program is quite new. Many administrative and personnel matters have to be resolved and procedures effected before one can assume that treatment is being given under the conditions which would constitute a fair test of the psychoanalytically oriented method with the personalities these criminal offenders have.

The clinic must be viewed first and foremost as a laboratory, where the State of California is providing psychiatry with an opportunity to demonstrate what it can contribute to parole. In the day-to-day process of work, the staff has many discouraging experiences which only occasionally are balanced by the kind of gratifications psychotherapists work for. But there is much satisfaction in the realization that once the present program can be perfected and subjected to an evaluative research, it promises to add to psychiatry's capacity to be of service.

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*The question of what might be done to improve the effectiveness of this program is beyond the scope of this paper; it involves a comparative assessment of a great variety of ideas in which different people in the field have confidence. The ideas include more intensive and longer term psychotherapy, release through a "half-way house," more social case work, and more intensive parole supervision.

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Ectopic Pregnancy

Early Diagnosis, Clinical Errors and Conservative Operation

PENDLETON TOMPKINS, *M.D.*, San Francisco

• This report of eight years' experience with extrauterine pregnancy by a single gynecologist is an exposition of how the diagnosis was made or why it was missed.

Of 26 diagnoses of ectopic pregnancy, five were false (20 per cent); and in three cases (10 per cent) the diagnosis was not made promptly —a total error of 30 per cent.

Ectopic pregnancy will be discovered earlier if obstetric patients are always examined shortly after missing the first menstrual period.

A palpable adnexal mass was present in 19 of 21 ectopic pregnancies (90 per cent). A mass was palpable in only one of five cases erroneously diagnosed as ectopic pregnancy (20 per cent).

Decidual casts were passed by four patients, two of whom did not have ectopic pregnancy.

If two gynecologists do not agree on the question of extrauterine pregnancy, a third opinion should be sought or culdoscopy employed.

Enucleation of the conceptus and salvage of the oviduct is advocated.

TWO APHORISMS are associated with ectopic pregnancy. It is said that it is the most frequently missed diagnosis in the domain of gynecology. It is also said that an experienced gynecologist can expect a lifetime average of 40 per cent errors in the diagnosis of the condition. Sometimes he will operate and find no ectopic fetus and again he will send the patient home only to have rupture occur a few days later. So we face once more the perennial problem of medicine—earlier diagnosis.

TYPE OF STUDY

The clinical study of a series of cases may be conducted in two ways. One method is to assemble the largest possible number of cases from some enormous source—for example, the Philadelphia General Hospital or the Los Angeles County General Hospital. Analysis of these big series is impressive by sheer weight of numbers but we should recognize that such a study of many patients treated by many men of varying degrees of skill and experience only tells us what results the patient, or the institution, may expect on the average. A brilliant diagnosis is obscured and a misdiagnosis is hidden in the anonymity of averages. We have no idea of what any single physician accomplishes. The second kind of case study is an intensive analysis of a small series of patients treated by one physician or by a very few physicians.

If physicians and diseases are opponents—as in fact they are—then massive statistics represent a score between teams while data on the small series constitute a round-by-round score in an individual contest.

SCOPE OF STUDY

The present study includes all private patients upon whom I made a diagnosis of ectopic pregnancy (whether correctly or incorrectly) and also all patients with ectopic pregnancy, later proved, that I failed to recognize. The analysis has been made with scrupulous care but it probably does not include every case because some patients must have had tubal pregnancies ending in absorption or small tubal abortions producing minor symptoms which were attributed to "early miscarriage." I think there are such cases in every obstetric office; if so, a study of "all ectopic pregnancies" is actually a study of "all diagnoses of ectopic pregnancy." A small difference perhaps, but one of philosophic interest. The true incidence of ectopic pregnancy may be greater than we think or will ever know.

In the eight years just passed 26 patients had diagnosis of ectopic pregnancy. Table 1 shows who saw the patient first and who first made the diagnosis. The table can be abbreviated thus:

5	cases of ruptured ectopic pregnancy (all misdiagnosed in one sense or another)
4	cases of tubal abortion
12	cases of unruptured tubal pregnancy
5	cases of erroneous diagnosis of ectopic pregnancy
26	laparotomies for ectopic pregnancy

PRESENTATION OF DATA

These data might be interpreted to mean that while a policy of bold diagnosis and early lapa-

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rotomy resulted in treatment before rupture could occur in 12 cases, the penalty was five unnecessary (a kinder word would be nonessential) operations. Five misdiagnoses in 26 cases (20 per cent error) seems high but I suspect that the proportion of error is just as high in operations for appendicitis, a much simpler disease to diagnose. In either case, ectopic pregnancy or appendicitis, I should prefer to operate and be wrong than not to operate and be wrong. Simple laparotomy is not very risky but rupture of an ectopic pregnancy or rupture of an appendix can kill. Later we shall consider the five erroneous operations from another point of view.

Factors Contributing to Early Diagnosis

Most helpful in making an early diagnosis are:

1. A high index of suspicion, specifically, asking oneself early in every case of pregnancy, "Is this certainly an intrauterine pregnancy?"

2. Seeing patients soon after the menstrual period is missed. An early examination may reveal an adnexal mass; if it does not, there is a written record that there is no mass and any subsequent enlargement is easily recognized. In some offices, and in some stations of the Armed Services, it is customary not to see patients until they have missed two periods. Such a policy means that the physician has almost no chance to detect ectopic pregnancy before it causes symptoms or is ruptured.

3. Inquiring about and paying close attention to any change in the character of the last menses, whether short, long, profuse, scant, interrupted, light or dark in color. The most significant single sign of tubal pregnancy is dark bleeding described as brown, chocolate colored, coffee colored, sooty, black or tarry. Such a report in the reproductive years means ectopic pregnancy until proved otherwise. Dark bleeding may be due to cervical stenosis but this is easily diagnosed.

4. Looking for an adnexal mass in every patient who has had a "peculiar" period or who has missed a period.

5. Pain from tubal pregnancy does not seem to radiate down the inner thigh as often as pain referred from the ovary. Intermittent but tolerable adnexal pain suggests a tubal abortion. If there has been no shoulder pain it can sometimes be evoked by placing the patient in the knee-chest position.

Importance of a Palpable Adnexal Mass

The palpable characteristics of a tubal pregnancy are difficult to describe. An unruptured tubal pregnancy feels to me like an unshelled peanut. It is

TABLE 1.—DATA ON 26 DIAGNOS

No.	Year	First Physician	Opinion	Second Physician
1	1949	Author*	Ectopic	First gynecologist consultant
2	1950	Author*	Ectopic	Resident gynecologist
3	1950	Author (phone)	Appendicitis	Internist
4	1951	Author	Ectopic	Pathologist
5	1952	Internist*	Ectopic	Author
6	1952	Thoracic surgeon (phone)	Pleuritis	Author*
7	1953	Author*	Ectopic	....
8	1953	Author*	Ectopic	....
9	1953	Gynecologist*	Ectopic	Author
10	1953	Author*	Ectopic	Gynecologist consultant
11	1953	Author	Corpus luteum hemorrhage	Internist
12	1954	General practitioner	Not known	Author*
13	1954	General practitioner	Not known	Author*
14	1954	Author*	Ectopic	....
15(5)†	1955	Author	Incomplete abortion	Author 4 days later
16	1955	Author*	Ectopic	Gynecologist consultant
17(7)†	1955	Author*	Ectopic	Gynecologist consultant
18	1955	Author	Ectopic	Pathologist
19	1955	Gynecologist	Abortion	Author*
20(14)†	1955	Author*	Ectopic	....
21	1955	Author*	Ectopic	Pathologist
22	1956	Internist	Not known	Author*
23(16)†	1957	Internist*	Ectopic	Author
24	1957	First general practitioner	Cervicitis	Second general practitioner*
25	1957	Author	Ectopic	Gynecologist consultant
26	1957	General practitioner	"Unusual" pregnancy	Author

†Four patients appear twice in the table. The number in parentheses is the number of the case upon first appearance.
*Physician who first made correct diagnosis.

A diagnosis of ectopic pregnancy was made 26 times, five times erroneously. Four patients had two ectopic pregnancies. The table shows the order in which various physicians saw patients (general practitioner, internist, general surgeon, thoracic surgeon, resident gynecologist in the hospital, gynecologist consultant at author's request; and in three cases the pathologist more exquisitely tender than any mass of similar size; twisted ovarian cysts are usually larger and a pyosalpinx has a more diffuse area of tenderness. In 19 of 21 cases of proven tubal pregnancy (12 unruptured, 4 tubal abortions, 3 ruptured) an abnormal adnexal mass was identified (90 per cent). In one case among five in which erroneous diagnosis of ectopic pregnancy was made, there was a palpable adnexal mass (20 per cent). In the future I intend to be chary of making a diagnosis of ectopic pregnancy when no abnormality can be felt. However, two patients (Table 1, Case 15 and Case 26) were not operated upon because no abnormality was palpable and both later had tubal rupture.

Consultations

As the general level of medical skill rises, the work of consultants is more and more difficult. Seldom is a consultant asked to see a patient who obviously or even probably has an ectopic pregnancy, but he is asked for an opinion on a patient who just might have an extrauterine fetus. In such cases, while the gynecologist is personally responsible for his decisions, he must, when in doubt, defer to the opinion of a colleague. To be specific, on one occasion (Case 11 in Table 1) I estimated the chance of ectopic pregnancy at 45 per cent, a colleague at 60 per cent. We operated: No extrauterine fetus. On another occasion (Case 10) I estimated the chance of ectopic pregnancy at 55 per cent, a colleague at 30 per cent. We did not operate at the time but three months later removed a large desiccated tubal mass that was proved histologically to be an old fetus. I cite these cases not as victories but as defeats; the original diagnosis was right but the decision on operation was wrong. These wrong decisions might have been avoided if we had had a third consultant, and in the future if there is not complete agreement between two, I intend to secure a third opinion. After all, an extra consultation is far cheaper than a faulty decision. This is the place to say that I believe it will benefit the patient, the doctor, the hospital and the community if surgical consultations are made as inexpensive as possible.

On six occasions after making a diagnosis of ectopic pregnancy, I requested gynecologic consultation—twice in one case (Cases, 1, 10, 16, 17, 25, Table 1). Two consultants diagnosed ectopic pregnancy and were proved correct; three diagnosed "no ectopic pregnancy" and were eventually proved wrong. One diagnosed intrauterine pregnancy; operation showed bilateral pyosalpinges, no pregnancy.

F EXTRAUTERINE PREGNANCY

Opinion	Third Physician	Opinion	Diagnosis at Laparotomy	No.
Not ectopic	Second gynecologist consultant	Not ectopic	Tubal abortion	1
Not ectopic	Gynecologist chief	Ectopic	Ruptured ectopic	2
Gallbladder	Surgeon	Perforated ulcer	Ruptured ectopic	3
Decidual cast	....	....	No gynecologic disease	4
Ectopic	....	....	Ectopic unruptured	5
Ectopic	....	....	Ruptured ectopic	6
....	....	....	Tubal abortion	7
....	....	....	Ectopic unruptured	8
Ectopic	....	....	Tubal abortion	9
Not ectopic	....	....	Ectopic unruptured	10
Ectopic	....	....	Myoma uteri	11
Ectopic	....	....	Ectopic unruptured	12
Ectopic	....	....	Ectopic unruptured	13
....	....	....	Ectopic unruptured	14
Ruptured ectopic	....	....	Ruptured ectopic	15
Ectopic	....	....	Ectopic unruptured	16
Ectopic	....	....	No gynecologic disease	17
Decidual cast	Resident gynecologist*	Not ectopic	No gynecologic disease	18
Ectopic	....	....	Ectopic unruptured	19
....	....	....	Ectopic unruptured	20
Decidual cast	....	....	Ectopic unruptured	21
Ectopic	....	....	Ectopic unruptured	22
Ovarian cyst	Author—after A-Z test	Ectopic	Tubal abortion and 10 cm. ovarian cyst	23
Ectopic	Author	Ectopic	Ectopic unruptured	24
Normal pregnancy	....	....	Pyosalpinges	25
Normal pregnancy	Same general practitioner*	Ectopic	Ruptured ectopic with abdominal pregnancy	26

who reported a decidual cast before operation was considered a consultant). The opinions of these physicians are set forth. A tubal pregnancy was termed unruptured if there was no rupture, break, split, perforation or loss of continuity of the external surface of the oviduct. Finding blood in the peritoneal cavity was not in itself considered evidence of rupture. All diagnoses of ectopic pregnancy were confirmed by microscopic examination. Only the patients in Cases 2 and 3 were not operated upon by the author.

Final score for consultants: Correct in one-third of the cases. The role of gynecologic consultant to a gynecologist is not a happy one.

Special Tests

Mention must be made of laboratory methods and special procedures to aid diagnosis.

For three reasons pregnancy tests were seldom made. (1) Often the clinical signs or severe pain made operation imperative and what a pregnancy test would have showed was of no consequence. (2) Pregnancy tests (A-Z, Frog, Friedman) are said to be unreliable in ectopic pregnancy, and they have mislead me on several occasions. (3) My most difficult problem has been to decide whether the pregnancy was intrauterine or extrauterine; a pregnancy test does not help.

Decidual casts were formerly considered pathognomonic of extrauterine pregnancy. Of four patients who passed triangular decidual casts (hystologically substantiated), two had ectopic pregnancy (Cases 1 and 21, Table 1), and two did not (Cases 4 and 18).

Blood cell counts were not helpful. Most patients had 12 to 14 thousand leukocytes per cu. mm. Pyelitis? Appendicitis? Salpingitis? Early uterine abortion? Two patients who had a large amount of free blood in the abdomen were reported to have 11 gm. of hemoglobin per 100 cc. of blood and more than 4 million erythrocytes per cu. mm.

In one extraordinary case (Case 15, Table 1) in which there was massive hemorrhage and deep shock, 4 plus glycosuria was reported and the blood sugar content was 230 mg. per 100 cc. No dextrose had been administered. The patient was known to be nondiabetic and the result of a postoperative glucose tolerance test was within normal limits. Evidently mobilization of glucose was part of the shock reaction.

Cul-de-sac puncture was employed once (Case 15). No blood was aspirated. Three days later the patient was readmitted in shock with tubal rupture.

Culdoscopy was not employed in this series. In the future I intend to use it in questionable cases if no adnexal mass is felt.

Summaries of Cases of Ruptured Tubal Pregnancies (Table 1)

Case 2. A diagnosis of unruptured ectopic pregnancy was made in the office. Unable to afford hospital care, the patient was referred to a free clinic and the gynecologic resident on duty was apprised of the diagnosis. The patient was examined by him the same day and was sent home. She was readmitted six days later with ruptured ectopic pregnancy. Missed diagnosis.

Case 3. The patient telephoned to report indigestion and nausea. She was 20 miles away, and as I thought of appendicitis I advised consultation with a surgeon. She at once saw an internist next door

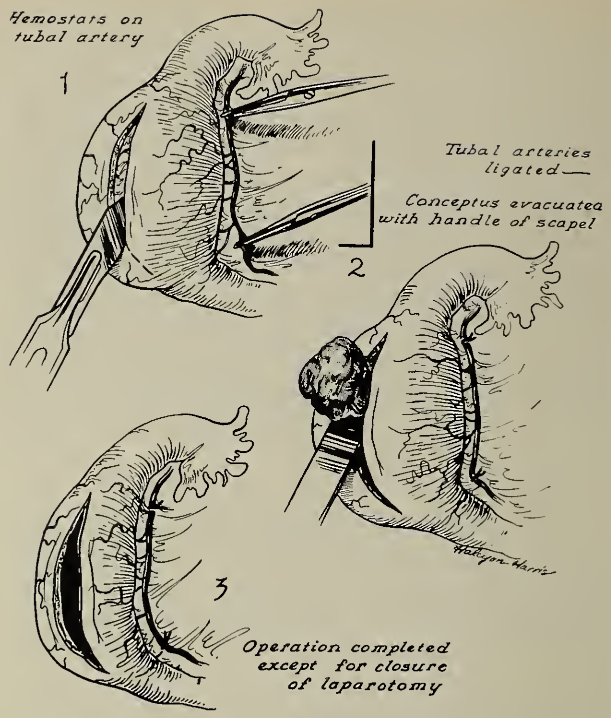

Hemostats on tubal artery
1
Tubal arteries ligated
Conceptus evacuated with handle of scapel
2
3
Operation completed except for closure of laparotomy

Figure 1.—Method of dealing with ectopic pregnancy in the proximal half of the tube. If bleeding is profuse the tubo-ovarian artery can be clamped and ligated without trauma to the oviduct. No attempt is made to repair the tube. (Reproduced by courtesy of *Fertility and Sterility*, Paul B. Hoeber, Inc. Publishers, New York.)

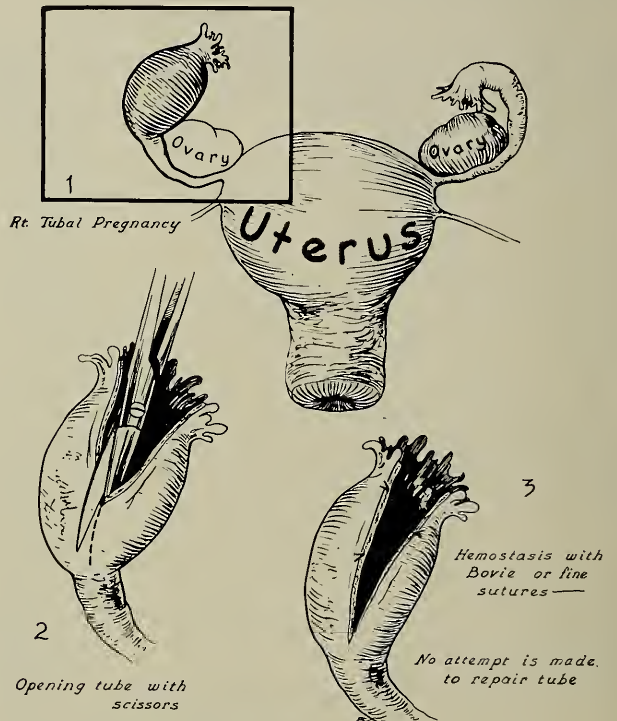
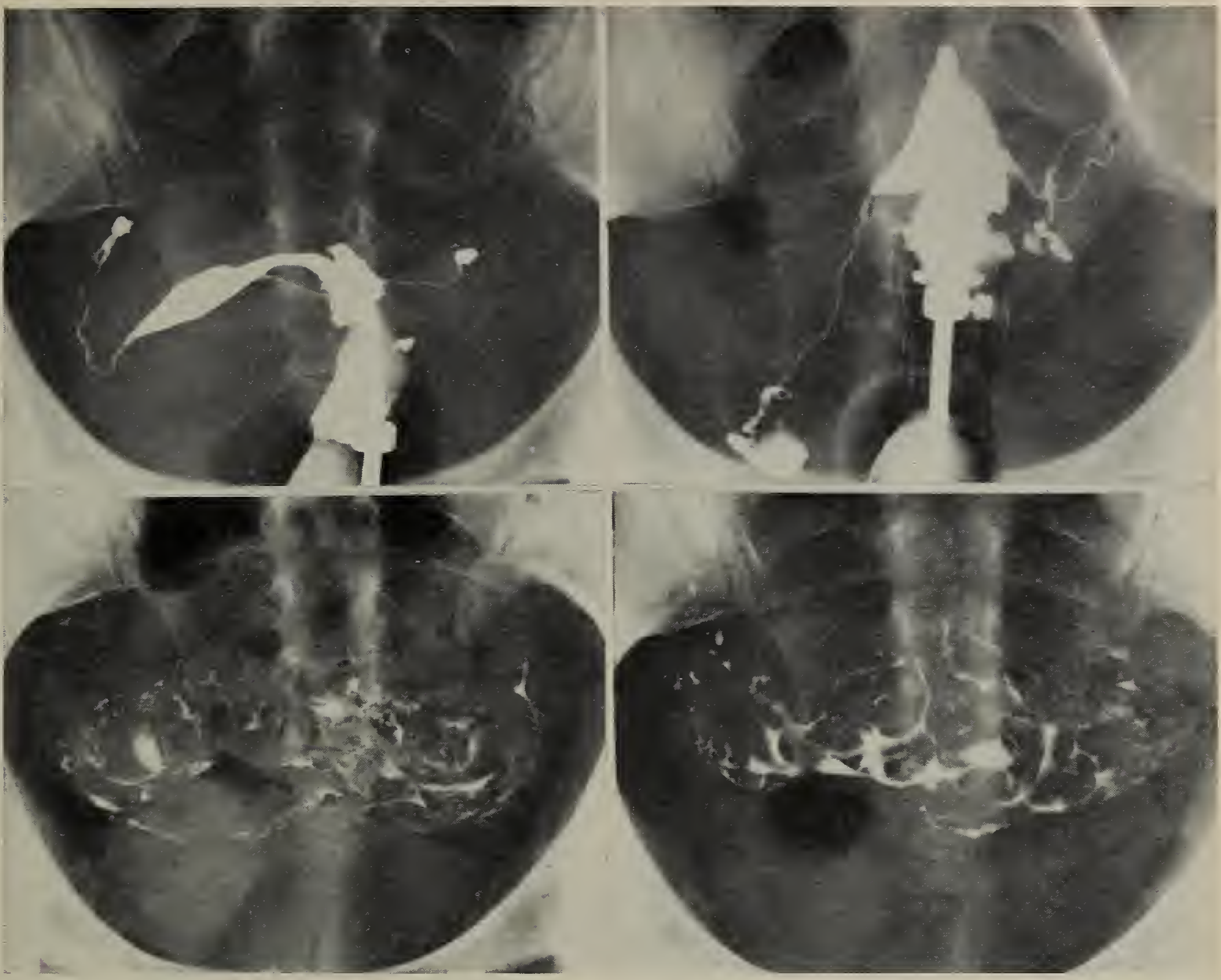

Ovary
1
Ovary
Rt. Tubal Pregnancy
Uterus
2
Opening tube with scissors
3
Hemostasis with Bovie or fine sutures
No attempt is made to repair tube

Figure 2.—Method of dealing with ectopic pregnancy in the distal half of the oviduct. The split tube is not closed. (Reproduced by courtesy of *Fertility and Sterility*, Paul B. Hoeber, Inc. Publishers, New York.)



Before ectopic pregnancies

After ectopic pregnancies

Figure 3.—Both sets of salpingograms (both of one patient—Cases 14 and 20, Table 1), one taken before and the other after tubal conception on both sides, show normal distribution of Ethiodol in the pelvis 24 hours after injection. In this extraordinary but not unique case, the oviducts were patent in February 1953. The patient had a baby at full term in November, 1953, a left tubal pregnancy in November, 1954, and a right tubal pregnancy in September, 1955. After bilateral ectopic pregnancies the films show patent tubes in February, 1956, and the patient had another baby at term in December, 1956.

who thought she had biliary colic. A surgeon saw the patient promptly and thought a peptic ulcer had perforated. The final diagnosis: Ruptured ectopic pregnancy with massive hemorrhage. Error: Not seeing the patient.

Case 6. The patient had had lobectomy for bronchiectasis. She telephoned the thoracic surgeon because of severe shoulder pain. He advised empirin and codeine. Final diagnosis: Ruptured ectopic pregnancy with massive hemorrhage. Error: Not seeing the patient.

Case 15. I had operated on the patient for an unruptured right tubal pregnancy in June, 1952 (Case 5). She was readmitted to the hospital January 10, 1955, with a working diagnosis of ectopic pregnancy. The same day, under anesthesia, careful palpation for an adnexal mass revealed none. Dilatation and curettage was done and the patient was discharged January 11; diagnosis: Completed abortion. She was readmitted January 14 in shock. The left tube had ruptured 3 cm. from the cornu. Error: Inability to identify a tubal mass by palpation.

Case 26. The referring physician said, "There's something peculiar about this pregnancy." I thought the uterus was three months' size, nothing abnormal. The patient was in a tense, emotional state bordering on the pathological. The work of unravelling a psychiatric problem deflected me from the task of taking a proper gynecologic history. Next day the patient was admitted to the hospital and upon examination the same so-called uterine mass was noted. Not until the referring physician made a diagnosis of ruptured ectopic pregnancy did I realize that there was an organic as well as a psychic disorder. At operation a three months' fetus was observed floating in free blood in the abdomen, and the placenta was attached to the top of the uterus and to the ileum. Error: Inadequate history. (This missed diagnosis is particularly painful to report because it occurred after this paper had been written.)

Summary of Operations in Error

The five cases in which laparotomy was done and ectopic pregnancy was not present may be summarized thus: Two patients (Cases 4 and 18) had symptoms of extrauterine pregnancy and microscopically proven decidual casts. At that time I thought casts were pathognomonic. One patient (Case 17) had a previous tubal pregnancy and the consultant's diagnosis of ectopic pregnancy confirmed mine. One patient (Case 11) had a tender adnexal mass; it was a small pedunculated fibroid tumor. One patient (Case 25) with a questionable pregnancy test result and tender adnexal mass had pyosalpinges.

These five errors are distressing but perhaps not damning. I estimate that, in the office, serious thought is given the possibility of an extrauterine pregnancy from one to five times each month, say an average of three times a month. In eight and one-third years (100 months) about 300 decisions would have been made between pyelitis, ureteral stone, appendicitis, twisted cyst, early abortion, salpingitis, corpus luteum hemorrhage and extrauterine pregnancy. Erroneous diagnosis led to laparotomy five times, or in an estimated 2 per cent of decisions. That is not a bad record considering that no laparotomies disclosed appendicitis, twisted cyst or corpus luteum hemorrhage and that only one revealed a pyosalpinx (incidentally, my first). Thus while the surgical errors were 20 per cent (5 in 26) the percentage of false diagnoses in office practice is estimated as very small indeed. This must be generally true.

TREATMENT

The treatment of ectopic pregnancy is, in my opinion, immediate operation. But the operation need not be salpingo-oophorectomy or even salpingectomy. The conceptus can easily be enucleated from the oviduct. Bleeding from the tube is slight and easily controlled (see Figures 1 and 2). I make no attempt to repair the oviduct, for it will heal. Free blood is not removed from the pelvis; it will not cause adhesions. This conservative procedure has been carried out on 14 occasions without complications.

One patient (Case 14 and Case 20) who had consecutive contralateral ectopic pregnancies (Figure 3) later had an intrauterine pregnancy and was delivered at term. One patient (Case 16 and Case 23) had a second ectopic pregnancy in the same tube (she has only one tube). Admittedly this is discouraging but at the second operation we found the oviduct stretched tight over a 10 cm. ovarian cyst and the point of nidation appeared to be on the tip of one of the fimbria. One cannot help thinking that attenuation of the tube by the cyst contributed to the ectopic pregnancy. There were no postoperative complications among patients with ectopic pregnancy. Wound infection developed in the case of the patient with pyosalpinges, although pus from the tube was sterile. There were no deaths.

450 Sutter Street, San Francisco 22.

REFERENCE

1. Tompkins, P.: Preservation of fertility by conservative surgery for ectopic pregnancy, Fertility and Sterility, 7:448-455, 1956.

Social Security Footnotes

THERE IS NOT an unlimited number of ways for Social Security to expand. Medical care is one of the few areas not covered by "social insurance," and the present framework of the Social Security Act is adequate to cover socialized medicine by means of a few amendments. The Disability Insurance "Trust" Fund could be changed into a Health Insurance "Trust" Fund by the stroke of a pen. Taxes could be increased. A new title could be added to the law and the private practice of medicine could be virtually destroyed.

—From the Department of Public Relations, American Medical Association

Nerve Lesions in Industry

Atrophy of Disuse as a Confusing Element in Diagnosis; The Value of Electromyography

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• Traumatic peripheral nerve lesions characteristically result in denervation muscular atrophy. Atrophy of disuse may take place concomitantly, either proximal, adjacent to or distal to the denervation muscular atrophy. The degree of atrophy of disuse depends upon the severity of the nerve lesion. Clinically, it is difficult to determine where true denervation muscular atrophy ends and accompanying atrophy of disuse begins. In such circumstances a clinician may be misled into belief that the cause of so apparently extensive a lesion is elsewhere. The patient then is often submitted to other complex diagnostic procedures and treatments. This difficulty can usually be dissipated by the use of electromyography, for each specific type of muscular atrophy produces its own characteristic electromyographic changes. Disuse atrophy produces no changes in electrical activity, whereas denervation atrophy manifests itself by typical denervation activity. Moreover it is possible to determine what part of muscular atrophy in a given area is owing to damage to a nerve and what part is owing only to disuse without denervation.

In INDUSTRIAL INJURY CASES, atrophy of disuse is often associated with neurogenic muscular atrophy resulting from a peripheral nerve lesion. When associated in the same extremity, these two types of atrophy may be confusing to a medical examiner.

This report is concerned with atrophy of disuse related to traumatic lesions of peripheral nerves. Atrophy of disuse is often a companion to neurogenic muscular atrophy that results from a peripheral nerve lesion. Association of these two distinct types of muscular atrophy in the same extremity can be so misleading as to lead a clinician to believe that the cause is a lesion in the spinal cord, nerve roots, trunks or cords of the plexuses (cervical, brachial or lumbosacral). Atrophy of disuse that occurs proximal to the neurogenic atrophy is particularly confusing, for the continuity is difficult to differentiate clinically. In certain cases it is almost impossible to determine, by physical examination alone, where neurogenic atrophy ends and atrophy of disuse begins. With the use of electromyography, however, the distinction can be made. Each type of muscular atrophy has its own specific electromyographic characteristic which is detected in its own anatomical area of distribution.

There are three general forms of muscular atrophy —disuse, neurogenic and myogenic.[1-6] Atrophy of disuse results from a lack of voluntary use of the affected muscles of either an upper or lower extremity, and is often associated with muscles of the shoulder and pelvic girdles. Atrophy of disuse may result from upper motor neuron disease such as monoplegia or hemiplegia due to a cerebral vascular, infectious or neoplastic lesion, from bone or joint pathology disease or from psychological block, which can be responsible for lack of voluntary use of either an upper or lower extremity or both upper and lower extremities, as in the case of hysterical paralysis. In addition, atrophy of disuse can occur in certain patients who have been involved, without severe injury, in an unusual industrial accident that ordinarily would have resulted in severe physical damage. Such an incident may lead the patient to believe that he is paralyzed. Atrophy of this type may also occur as a result of minor injuries from which the patient has fully recovered except for his belief, for one reason or another, that he is unable to move the affected extremity.

There is still another important cause of atrophy of disuse: A physician's suggestion—inadvertent or unguarded—that an injury that might cause disuse has occurred. A patient who has had a minor injury to an extremity is sometimes told by a physician that a nerve has been injured. Such a suggestion may lead a susceptible patient to believe that he actually has a nerve lesion and to impose an unnecessary immobilization upon himself.

DISTRIBUTION OF ATROPHY OF DISUSE

There are four main types of distribution of atrophy of disuse in the company of peripheral nerve lesions: Proximal, adjacent, distal and the predominant. Combination of all four may also occur. The

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proximal type seems to be more misleading than the others.

Proximal type. The proximal type of atrophy of disuse is most disturbing when occurring in the shoulder girdle and arm after a painful nerve lesion of the forearm and hand or of the hand alone. The disturbance is more acute when related to lesions of the median nerve at the elbow or below the wrist. Lesions of the median nerve below the wrist result more particularly in denervated atrophy of the thenar eminence and of the first and second lumbricales. Causalgia of the affected hand is often the main cause of restricted motion of the shoulder, arm, forearm and hand. Such restricted motion results in proximal atrophy of disuse in the shoulder girdle, especially the suprainfraspinatus muscles. From this added disuse of parts proximal to the neurogenic atrophy of the hand, an examiner may conclude that the cause is perhaps an intraspinal traumatic cervical lesion or herniation of an intervertebral disc. This might lead to elaborate diagnostic procedures or possibly to laminectomy.

Adjacent type. Confusion of the same sort occurs when atrophy of disuse is associated with an isolated lesion of the median nerve just above, at or below the elbow. A lesion of the median nerve in the forearm or hand which has caused neurogenic atrophy of the thenar eminence can also result in adjacent disuse atrophy of the rest of the muscles of the hand which are innervated by the normal ulnar nerve. With this added atrophy of all the dorsal interossei and the hypothenar group, the clinical picture may be like that of brachial plexus involvement or of multiple peripheral nerve lesions. Unnecessary nerve transplanting or surgical exploration of the brachial plexus might be done as a consequence.

Distal type. Isolated lesions of the long thoracic nerve of Bell, the dorsal scapular, suprascapular, axillary or musculocutaneous nerve result in neurogenic atrophy of the respective innervated group of muscles either in the shoulder girdle or the arm. Because of the proximal disability—that is, neurogenic atrophy as a result of nerve lesion—atrophy of disuse often occurs in the hand and forearm. This accompanying disuse atrophy may be misinterpreted as owing to either a lesion involving a considerable segment of cervical cord or a total lesion of the brachial plexus.

Predominant type. Atrophy of disuse can be predominant in a group of muscles in which the nerve supply has been slightly injured and also in which the nerve once injured has regenerated.

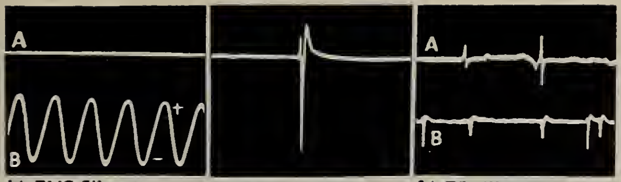
A peripheral nerve lesion with subsequent proximal, adjacent, distal or predominant disuse atrophy or a combination of all four types can also occur in the lower extremities. Lesions of the medial and/or lateral plantar nerves at or below the ankle can bring about atrophy of disuse of the pelvic girdle and leg. Such a condition may be clinically similar to that caused by a lesion of the cauda equina or a herniated lumbar disc. Lesions of the peroneal nerve cause a neurogenic atrophy ("foot drop") of all the muscles innervated by this nerve. However, the muscles of the calf may undergo atrophy of disuse as a result, and this combination can lead to suspicion of trauma involving the sciatic nerve, the sacral and/or lumbar plexus, the lumbar or sacral nerve roots or the lumbar cord.

It must be borne in mind that atrophy of disuse as an accompaniment of neurogenic atrophy is common in any form of mononeuropathy or polyneuropathy whether the cause be trauma, vascular insufficiency, infection, pressure, neoplastic invasion or congenital abnormality.

ELECTROMYOGRAPHY IN DIFFERENTIATION

Atrophy of disuse is caused by voluntary disuse or restricted use of voluntary muscles. Any of a variety of mechanisms may bring it about. The present communication is concerned only with focal atrophy of disuse associated with traumatic neurogenic atrophy. Electromyographically, atrophy of disuse shows the following electrical characteristics: (1) On insertion of the needle, the activity mechanically activated is not prolonged, for the normally innervated muscle is able to accommodate the mechanical stimulation. Thus, the insertion activity is normal. (2) When the muscle is fully relaxed there is no electrical activity generated (Chart 1, line A in frame 1). (3) During voluntary contraction normal or nearly normal motor units are generated (frame 2 in Chart 1). They are not reduced in number in proportion to the muscular atrophy. (4) There is no complex or giant motor unit activity. (5) Denervated activity is not present. Generally speaking, the electrical activity generated from muscles involved in atrophy of disuse is normal as in normal muscles. Muscular atrophy that is the result of nerve injury produces a specific type of abnormality—denervation activity, which is the manifestation of nerve lesion in either the spinal cord, nerve roots, trunk, cords or the peripheral nerve.

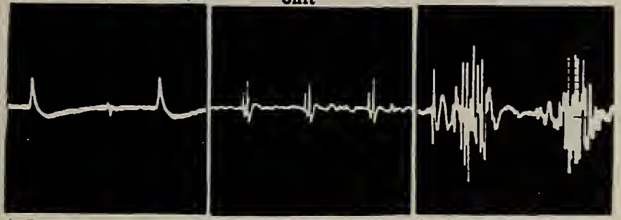
Denervation activity has the following electromyographic characteristics: Insertion of the needle electrode in a denervated muscle evokes or mechanically activates prolonged activity: (1) Mechanical positive sharp waves (frame 4, Chart 1) and (2) mechanical fibrillation (frame 3A). The prolonged mechanical activity is the result of response of hyperirritable denervated muscles to the mechanical stimulation of the needle electrode. Unlike the normally innervated muscle of atrophy of disuse, the



1A EMG Silence
B Cal 60 c/s 200 uV/in

2 Normal Motor Unit

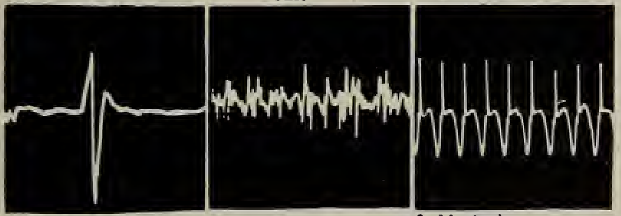
3A Fibrillation
B Nerve Fiber



4 Denervation Sharp Waves

5 Nascent Motor Unit

6 Polyphasic Motor Unit



7 Giant Motor Unit (2 mV/in.)

8 Dystrophic Activity

9 Myotonic Activity

Chart 1.—Classification of Electromyographic Responses

1, *A*. The straight line indicates electromyographic "silence," with no activity from normal muscles or muscles atrophied from disuse. *B*. Undulating calibration signals whose amplitude from peak to peak equals 200 microvolts (uV). The horizontal interval from one peak to the other is equal to 16.6 milliseconds (ms). The plus sign indicates that the upward deflection of all the waves is positive while the minus sign indicates the downward deflection is negative.

2. Normal motor unit waves characterized by a large negative spike preceded and followed by a small positive phase. This wave is the normal physiological motor unit generated during voluntary muscular contraction as the result of the nerve impulses traveling via the anatomical motor unit (one anterior horn cell, its axon and the group of muscle fibers which it innervates).

3. *A*. Fibrillation waves show an initial positive followed by a negative phase produced by an invisible, involuntary contraction of a single denervated muscle fiber. *B*. Nerve fiber waves begin with a long negative phase and end with a short positive phase and are mechanically induced when the needle electrode accidentally strikes a nerve fiber.

4. Denervation sharp waves present an initial rapid positive phase and end with a prolonged negative phase. They are mechanically induced by the exploring electrode and indicate a prolonged electrical manifestation of the hyperirritability of denervated muscles unable to accommodate the mechanical stimulation.

5. Nascent (young) motor units are recorded during voluntary efforts and denote the first signs of regeneration when recorded from previously fibrillating muscles.

6. Polyphasic motor units recorded during voluntary efforts indicate functionally impaired anterior horn cells.

7. Giant motor units recorded during voluntary efforts (compare with scale of two millivolts [mV] in 1, *B*) in long-standing neurogenic muscular atrophy. The large amplitude denotes hypertrophy of the remaining muscle fibers from overuse.

8. Dystrophic activity denotes many very small motor units representing many active nerve cells compensating for loss of muscle tissue in primary diseases of the muscle.

9. Myotonic activity indicates high frequency electrical discharges recorded from patients suffering from myotonia.

denervated muscle is not able to accommodate the mechanical stimulation. (3) As the mechanical activity *gradually* disappears spontaneous fibrillation, if present, may persist. (4) Under voluntary efforts (frames 5 and 6) complex and/or giant (frame 7) motor units which compensate for neurogenic atrophy are generated. These motor units are reduced in number in proportion to the degree of atrophy. This is the opposite of primary muscular atrophy (frames 8 and 9), in which the motor units are small and increased in number in relation to the degree of atrophy. In short, denervated atrophy manifests itself by denervated activity—positive sharp waves, mechanical and/or spontaneous fibrillation and the motor units are altered and reduced in number.

From the distribution of the denervated activity and the altered motor units the precise location of the lesion can be determined. An anterior horn cell lesion shows plurisegmental denervation, a root lesion shows denervation confined in the affected myotome, while a plexus lesion shows denervation only in the muscles innervated by its components. On the other hand, a peripheral nerve lesion shows the denervation restricted to the group of muscles supplied by the affected nerve, regardless of the proximal, adjacent, distal or predominant accompanying atrophy of disuse which may simulate denervated muscular atrophy.

REPRESENTATIVE CASES

Traumatic neuritis of the ulnar nerve at the palm of the hand can produce, in addition to its own denervation atrophy in the muscles of the hand, associated atrophy of disuse of the shoulder girdle. The resultant clinical picture can simulate that of a lesion of the cervical cord, nerve root or brachial plexus.

Case 1. A 43-year-old automobile mechanic complained of pain in the right upper extremity of 18 months' duration with conspicuous muscular atrophy of the first dorsal interossei and right shoulder girdle (Figure 1, A). A neurologist who was consulted made a diagnosis of herniated cervical intervertebral disc. No abnormality was visible in a cervical opaque myelogram. An electromyogram showed denervated activity only from the first, second and third dorsal interossei, placing the ulnar nerve lesion at the palm of the right hand (Figure 1, B). Upon further investigation it was learned that the patient was using his right hand as a hammer.

Comment. The atrophy of the shoulder girdle showed no denervated activity and only normal motor units. Clinically the atrophy of disuse was misleading in this case. The correct localization of the lesion on the basis of the electromyogram led to correct diagnosis and treatment. A nerve root lesion

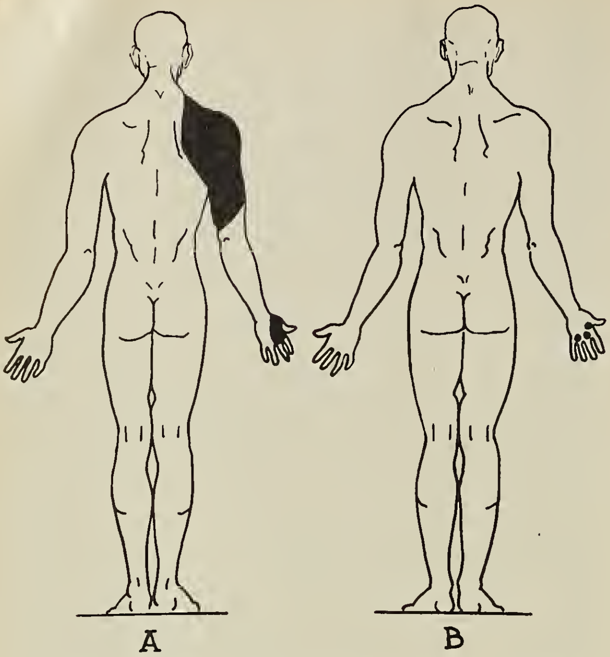


Figure 1 (Case 1).—The clinical muscular atrophy of the right upper extremity (black areas, *A*) pointed to a cervical cord lesion or a ruptured cervical disc. The electromyogram revealed an isolated ulnar nerve lesion at the palm of the hand (black areas, *B*).

was ruled out, for no denervation activity was found in the paraspinal muscles or in the right upper extremity supplied by a given nerve root.

The authors have observed many patients who received trauma to the median nerve at the level of the elbow or at or below the wrist. Such lesions can lead to severe pains (causalgia). The pain causes the patient to "favor" the entire extremity, which results not only in atrophy of nerve trauma but also in pronounced atrophy of disuse.

* * *

Case 2. A 26-year-old iron worker fell and received an injury of the right upper extremity, resulting in pain radiating to the hand. Subsequently atrophy of the right hand and upper extremity occurred. The wasting was most prominent in the thenar eminence and in the shoulder girdle (Figure 2, A). Herniated cervical disc or some lesion of the trunk or cord were all considered in the diagnosis.

Opaque myelography of the cervical region was then recommended. Another consultant, however, recommended that an electromyogram be made first. This revealed partial denervation restricted to the muscles of the right thenar eminence (Figure 2, B). These findings placed the lesion at the base of the right thumb. The patient received sedation for the pain and physiotherapy for eight months. Muscle volume in the shoulder girdle and hand returned to normal.

Comment. Normal activity was recorded from the muscles of the cervical nerve roots as well as those of the brachial plexus. This helped to distinguish the atrophy of disuse involving the muscles of the shoulder girdle and the arm from the true denervation atrophy of the thenar eminence due to the median nerve lesion at the base of the thumb. The lesion apparently had been caused in using the right hand to break the fall.

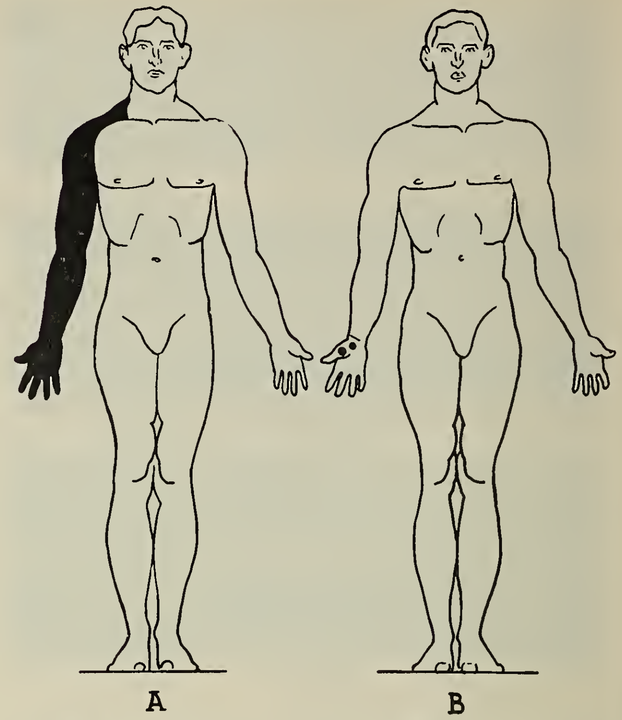


Figure 2 (Case 2).—The muscular atrophy of the right upper extremity (black area, *A*) suggested rupture of a cervical disc. The electromyogram indicated an isolated median nerve lesion at the right carpal-tunnel level (black areas, *B*).

* * *

"Saturday night paralysis" may cause, in addition to the resultant nerve lesion, secondary disuse atrophy which can be misleading.

Case 3. Severe muscular wasting of the entire left upper extremity and shoulder girdle (Figure 3, A) had been observed in a 64-year-old construction worker over a period of four months. Paralysis of the left upper extremity had developed following an alleged injury to the left shoulder and the neck. A lesion either in the nerve roots or the trunks or cords of the brachial plexus was suspected, for there was definite atrophy of the muscles supplied by the suprascapular, axillary, musculocutaneous, radial, median and ulnar nerves. Surgical exploration was therefore considered. Electromyographic evaluation was requested as an aid in precise localization of the lesion. The electromyograph showed that the muscles that are innervated by the roots, trunks and cords, suprascapular, axillary and musculocutaneous nerves (including the triceps) were all normal. Moderate partial denervation was found in all the muscles supplied by the left radial nerve (distal to the

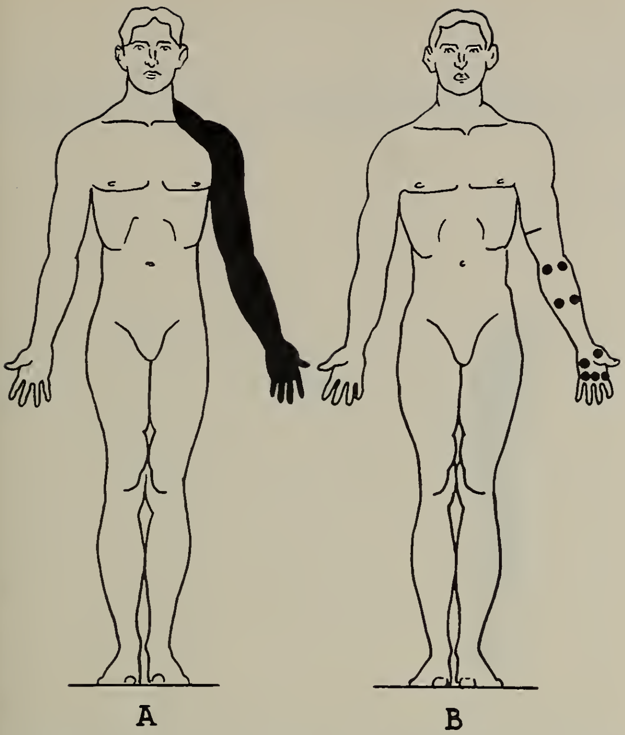


Figure 3 (Case 3).—The clinical findings (involving black area, *A*) pointed to injury of the cervical cord, root or plexus. The electromyogram indicated involvement of the peripheral nerves at the middle of the left forearm (black areas, *B*).

radial groove of the humerus) and the ulnar nerve distal to the elbow (Figure 3, B). The muscles of the left median nerve showed severe partial denervation. The electromyographic findings localized the lesion in the periphery at the middle of the medial aspect of the left arm. After 15 months of physiotherapy the patient attained almost complete recovery of the use of these muscles. The muscle value of the shoulder girdle, arm, forearm and hand returned with only slight residual atrophy of the thenar eminence.

Comment. In this case, atrophy of disuse accompanying the neurogenic atrophy misled the clinician to believe that the lesion was in the nerve roots or the brachial plexus. Not only did the electromyogram lead to a correct diagnosis, but there was sufficient history to indicate that the lesion was the result not of an industrial injury but of "Saturday night paralysis" following alcoholic intoxication.

* * *

Nerve injury of the shoulder girdle can result in atrophy of disuse proximal and distal to the true muscular atrophy. The extent of disuse atrophy can camouflage the true lesion.

Case 4. Temporary dislocation of the right shoulder of a 34-year-old laborer resulted in atrophy of the entire upper extremity including the shoulder girdle (Figure 4, A). The clinical features were those of a lesion of the brachial plexus with involvement of all the cords. Surgical exploration and neurolysis were recommended. An electromyogram was requested to help locate the level of the lesion. Severe partial denervation was found only in the teres minor and deltoid (Figure 4, B). These observations were consistent with an isolated severe, although partial axillary nerve lesion. After 18 months of treatment there was a remarkable recovery.

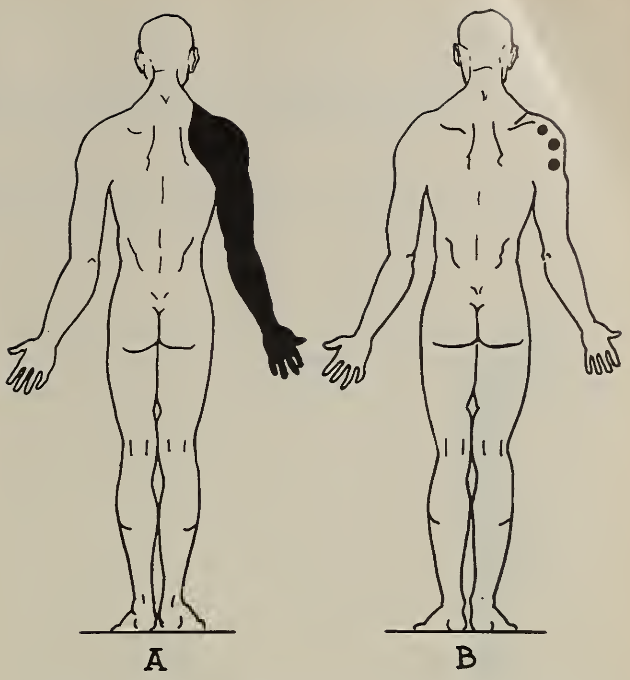


Figure 4 (Case 4).—Atrophy of the right upper extremity (black area, *A*) pointed to severe involvement of the right brachial plexus. From the electromyogram it was determined that there was an isolated axillary nerve lesion (black areas, *B*).

* * *

Peripheral nerve lesions of the foot may cause the patient to "favor" the entire extremity, with extensive secondary atrophy of disuse resulting.

Case 5. A 38-year-old truck driver, who said he had injured his back while working, complained of severe pains in the back and right lower extremity and of burning pain in the right foot. Muscular atrophy of the gluteal group, hamstrings and calf muscles was evident (Figure 5, A). No abnormality was observed in an opaque myelogram of the back. A consultant thought the patient had a lesion in the sacral plexus. An electromyogram showed severe changes (denervation) restricted to the muscles (Figure 5, B) of the medial and lateral plantar nerves. The findings pointed to a lesion of the terminal branches of the tibial nerve at the level of the right ankle. Upon operation at the medial aspect of the right ankle, the plantar nerve was observed to be imbedded in degenerative cyst.

Comment. The electromyographic findings pointed to the exact location of the lesion. At the same time the cause of the misleading muscular atrophy of

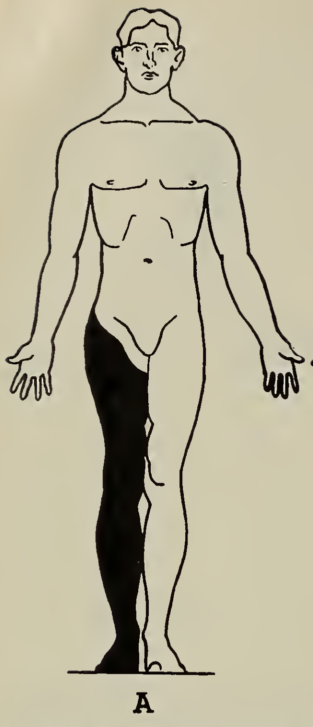


Figure 5 (Case 5).—The clinical features (involving black area, *A*) were those of herniation of a lumbar disc. The electromyogram indicated an isolated plantar nerve lesion at the level of the ankle (black areas, *B*).

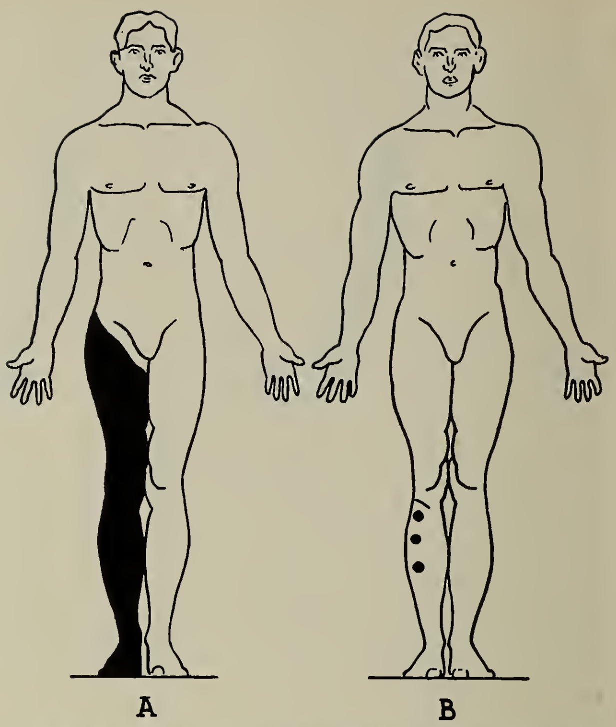


Figure 6 (Case 6).—A seamstress had symptoms involving black area, *A*, consistent with lumbar nerve root compression. The electromyogram indicated an isolated right peroneal nerve at the head of the fibula (black areas, *B*)—the result of habitual crossing of the legs.

disuse of the pelvic girdle and lower extremity was found. At first the patient actually believed that the pain was the result of a slight back injury.

* * *

Partial peroneal nerve lesions can result in secondary atrophy of disuse both in the adjacent and proximal muscles, resulting in confusing clinical features simulating those of involvement of the cauda equina, nerve roots or lumbosacral plexus.

CASE 6. A 52-year-old seamstress complained of severe pain in the back with weakness and atrophy of the right lower extremity and partial foot drop. Atrophy of the right gluteal group and right lower extremity (Figure 6, A) was noted. Because the symptoms pointed to root lesion, an opaque myelogram was done but no abnormality was observed. An electromyogram showed partial changes (denervation) in the right peroneal nerve (Figure 6, B) at the level of the head of the fibula.

Comment. The patient habitually crossed the right leg over the left while working, pressure on the peroneal nerve resulting. Recovery soon followed discontinuance of this practice.

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Nervous Complications of Exanthem Subitum

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• For many years it was generally believed that all convulsions associated with exanthem subitum were febrile in origin. More recently several investigators have suggested that the causative agent of this disease has a selective action on brain tissue aside from the effect of high temperature. In support of this concept are a variety of neurological manifestations sometimes observed during the course of exanthem subitum. These include prolonged and repeated convulsions, hemiparesis, headache, vomiting, bulging fontanelle, vertigo, cervical rigidity, extreme irritability and a reversal of the time of sleep. Abnormalities in the spinal fluid have been reported on a few occasions.

By chance the authors observed a case of exanthem subitum that began with a prolonged and severe afebrile convulsion and transient left hemiparesis. Serial electroencephalograms showed a focal lesion with suppression and slowing in the right parietal area. Behavior disorders of brief duration were noted. This case is interpreted as additional evidence of the presence of an encephalitic process.

The nature of the cerebral lesion remains unknown. The remote possibility of disturbed behavior in later life deserves consideration.

IN 1927 Faber and Dickey[7] reviewed the symptomatology of exanthem subitum (roseola infantum) and listed some of the neurological manifestations. Included in the list were drowsiness during the day and wakefulness and irritability at night, headache in older children and head shaking in young infants, excessive crying, a bulging fontanelle, extreme irritability, vomiting and convulsions. Eight of the 570 patients analyzed in their report had generalized convulsions. One child had three successive convulsive seizures and was unconscious for more than four hours.

Berenberg, Wright and Janeway[4] in an analysis of 181 cases noted several patients who were unusually drowsy after one or a series of convulsions. They stated that the seizures were usually generalized, tonic or clonic in character, of short duration and presumably febrile in origin. Two patients had post-convulsive hemiplegia, which cleared in two and five days respectively. It was their impression that the hemiplegia was almost certainly due to the preceding convulsions rather than to roseola *per se*. Lumbar puncture was done often and no significant alterations in the spinal fluid were observed. (In one case lymphocytes numbered 25 per cu. mm.)

Scattered instances of affection of the nervous system in exanthem subitum have appeared in the literature. Wallfield[23] described the case of a 12-year-old boy with encephalitic manifestations at the onset of the illness. During the first two days vomiting, fever, headache, vertigo and stiffness of the neck occurred, and there was a questionable convulsive seizure. The characteristic drop in temperature, rash, leukopenia and rapid recovery followed. The spinal fluid was normal.

Rosenblum[22] reported the case of a 19-month-old girl whose illness began with rectal temperature of 103°F. and a generalized convulsion of ten minutes' duration. Three additional convulsions occurred during the first day of the illness and two of them lasted about three hours. Just before the appearance of the rash, left hemiplegia was noted. The weakness gradually subsided and cleared entirely over a period of ten weeks.

Posson[20] reported three cases of exanthem subitum, each with hemiplegia following prolonged convulsions. The duration and recurrences of the convulsions were not consistent with simple febrile origin. The hemiplegia cleared promptly in one child, but residual weakness persisted in the others. Posson suggested that the causative agent had a selective action on brain tissue aside from the effect of high temperatures.

Holliday[13] reported five cases of pre-eruptive roseola encephalitis. Signs and symptoms referable to the central nervous system antedated the eruption in all cases—by as much as seven days in one instance. One patient had coma and athetosis. Two patients had cervical rigidity. Three had bulging of the anterior fontanelle. The cerebrospinal fluid was under increased pressure in three patients and in two patients the cell count was increased—to 23 cells per cu. mm. in one case and 40 in the other. All patients promptly recovered. In one patient (who had family history of epilepsy) petit mal seizures developed one and one-half years later.

Friedman, Golomb and Aronson[11] reported the case of a nine-months-old male infant in whom generalized convulsions with loss of consciousness

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developed about one day after the onset of fever. The convulsion was associated with a temperature of 104°F. Later, right sided convulsions developed and continued intermittently for four hours. Sedatives were administered. Consciousness was regained after 17 hours. On the third day of the illness, right hemiplegia was noted. The following day a rash typical of roseola appeared and the temperature dropped to normal. Leukopenia was present at the onset. Clear spinal fluid obtained during the febrile stage contained red blood cells, probably traumatic in origin. On the sixth day the spinal fluid contained 20 leukocytes per cu. mm., principally polymorphonuclear cells. The child was discharged from the hospital on the eighteenth day after onset of illness, in good condition but with a slight weakness of the extremities on the right side.

Windorfer[24] personally observed 117 cases of exanthem subitum over a period of four years. Convulsions occurred in 35 cases, vomiting in 39, meningism in 24 and bulging of the fontanelle in one. Spinal puncture was done in 28 cases in which meningitis was suspected. The fluid was always clear and showed increased pressure. The number of cells in the spinal fluid was definitely increased in three cases and the Pandy reaction was positive in two cases. The patients were less irritable after the withdrawal of fluid. Repeated convulsions occurred in 12 cases—all in one day in six patients and on successive days in six others. Four cases of paresis subsequent to convulsions were observed. These included a flaccid paresis of the left arm of two days' duration, a hemiparesis of the left arm and leg which regressed within 24 hours, a paresis of the right side which regressed slowly within a period of six weeks, and a hemiparesis on the left side which regressed within 24 hours associated with facial paresis which cleared within a few days.

In the records of the Massachusetts General Hospital published weekly in the *New England Journal of Medicine* (case 42121)[16] an additional case was briefly mentioned. A girl, aged 21 months, showed, at autopsy, Wilms' tumor of both kidneys, subacute glomerulonephritis and bronchopneumonia. According to the history she had roseola at seven months of age. At the termination of this illness she had convulsions of six hours' duration and subsequently the left side was paralyzed for two months. She regained full motion and power and seemed well afterward. The discussor commented on the rarity of central nervous system involvement at the end rather than at the onset of roseola. Pathologic studies of the brain were not included in the report.

Moller[19] reviewed the histories of 448 children with febrile convulsions in order to determine if any special diseases dispose the patient to this complication. Pharyngitis was associated with nearly 80 per cent of the cases and exanthem subitum was second with almost 8 per cent of the total. Twenty-nine of the children with exanthem subitum were subjected to lumbar puncture and in six cases the spinal fluid pressure was considered to be increased. The number of leukocytes in the spinal fluid did not exceed 9 per cu. mm. Subsequently, two of the children who had convulsions with exanthem subitum had repeated attacks of convulsions in connection with fever, and in one a very troublesome grand mal epilepsy developed. In the child with epilepsy there was no family history of convulsive disorders, no signs of cerebral lesions, and no abnormal electroencephalographic alterations. Moller suggested that exanthem subitum does not cause convulsions merely through fever but that a specific cerebral disturbance occurs at the same time.

Glanzmann (cited by Moller[19]) also pointed out that children with exanthem subitum seem to show signs of cerebral affection: They toss to and fro, vomit and are tender to touch; older children also complain of headache. Glanzmann believed that a serous meningitis is present in many cases in which bulging of the fontanelle occurs. He observed one case of exanthem subitum with convulsions and hemiparesis.

The following case was observed by the authors:

A white boy, aged two years and four months, was observed to be playing normally in his crib five hours before the sudden onset of a convulsion. Two days previously he had received a minor injury of the head (right frontal area) without loss of consciousness or any symptoms suggestive of concussion. His birth and development had been normal. At 4 a.m. the parents were awakened and found the child semicomatose and with convulsive movements of the left side. The father, an optometrist, noticed that the right pupil was larger than the left.

When the patient was examined by a pediatrician (M.N.) 45 minutes later, the skin was cool to palpation; the infant was stuporous; the head and eyes were turned to the left; the right pupil was larger than the left; repeated slow jerking movements of the left side of the face and left arm occurred almost simultaneously and were followed immediately by similar movements of the left lower extremity. The right extremities were mildly flaccid. Sodium phenobarbital was administered, 0.12 gm. intramuscularly and 0.06 gm. intravenously, without any discernible effect on the seizure.

The child was admitted to the hospital at 5:30 a.m. and at that time the rectal temperature was 99.8°F. No antipyretics had been administered. The convulsion persisted for a total duration of 2 hours and 45 minutes. At 6:10 a.m. the temperature was 100.6°F. The first electroencephalographic tracing was recorded at 11:00 a.m. and at 1:15 p.m. the temperature was 103°F. Toward evening the sensorium partly cleared and the patient was able to follow the movement of objects with his eyes but was unable to speak. Left hemiparesis was present. There was no response to painful stimuli in the left arm and only slight withdrawal from stimuli in the left leg. All deep reflexes were decidedly diminished and difficult to evoke. The right toe sign was positive and the left equivocal. No hemorrhages or signs of pressure were apparent on examination of the fundi of the eyes. The spinal fluid obtained shortly after admission was clear; the pressure was 120 mm. of water; it contained 4 cells per cu. mm.; the protein content was 11.0 mg. per 100 cc. and the sugar content 100 mg. per 100 cc. No organisms grew on a culture. No abnormalities were detected in x-ray films of the skull. Leukocytes numbered 13,700 per cu. mm. of blood—80 per cent polymorphonuclear cells. The number of erythrocytes and the hemoglobin value were within normal limits. No alterations in the urine were present. The initial impressions included subdural hematoma, neoplasm and acquired infantile hemiplegia, so-called Marie-Strumpell encephalitis.

The following day the patient was stuporous and unable to speak. The weakness of the left side persisted. The pupils became equal in size. The rectal temperature rose to 104.2°F. The leukocyte count decreased to 3,400 with 77 per cent polymorphonuclear cells. On the third day the patient appeared mentally clearer. The presence of suboccipital adenopathy was noted for the first time. On the fourth day the temperature fell abruptly to 100°F. Leukocytes numbered 2,400 per cu. mm., with 32 per cent polymorphonuclear cells. A morbilliform rash appeared. A diagnosis of exanthem subitum seemed justifiable. The patient was greatly improved and was able to say a few words. Only a facial weakness persisted. Two weeks later there was no evidence of any residual manifestations. A complete muscle function test was done by a trained physiotherapist and no signs of weakness were noted.

Subsequently the intelligence of the patient appeared normal but for many months aggressive hyperactivity and increased irritability were observed. No convulsions have occurred in the four years that have elapsed since the illness.

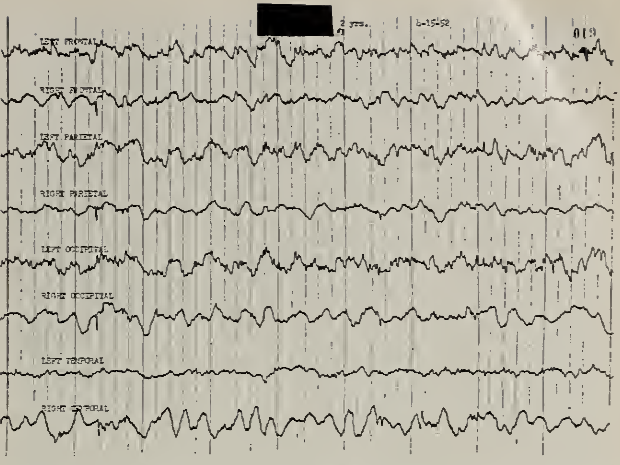
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Figure 1.—Electroencephalogram of April 15, 1952 shows suppression in the right parietal area and delta activity in the parietal-temporal area denoting a focus on the right parietal-temporal area.

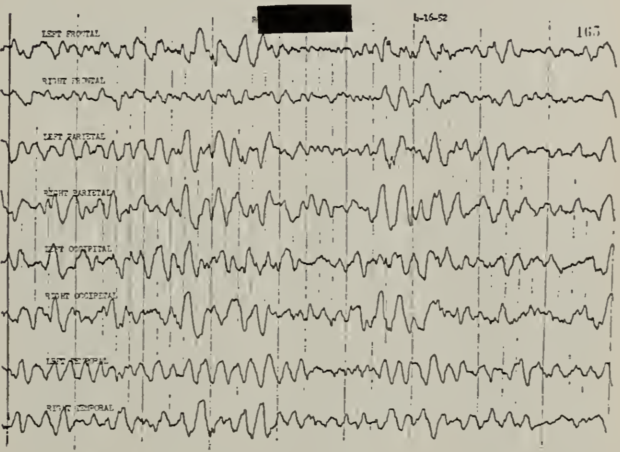
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Figure 2.—Electroencephalogram of April 16, 1952 shows diffuse slowing with no focal abnormality. The focus present in Figure 1 has disappeared.

COMMENTS ON THE ELECTROENCEPHALOGRAMS

Following is the report of a neurologist* on the electroencephalograms.

"The first electroencephalogram (Figure 1) on the day of admission to the hospital showed suppression and slowing on the right side. Suppression and slowing of this pattern are not pathognomonic of any disease entity, but have been found in lateral subdural hematoma, lateral cerebral abscess, focal encephalitis, unilateral cerebral thrombosis, brain tumor and focal cerebral contusion. This activity can be consistent with cerebral ischemia due to vascular occlusion. The tracing is similar to that of an adult suffering with a stroke. However, in adults, more alpha activity is present from the normal side of the brain. The abnormality on the right side cannot be distinguished from local infection.

"The generalized slowing in Figure 2 (second day of illness) is similar to that found in measles encephalitis. This slowing can also be found as the result of febrile alteration. However, in this case, when the temperature returned to normal the slowing persisted, denoting that the variation was due to physiological change and not to elevated temperature.

"The slightly increased slowing in the right parietal area in Figure 3 (27 days after onset) denotes that this area was more affected than the left and requires a somewhat longer time to return to normal, a fact which is obvious, clinically, in this case.

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"To sum up, although the first brain wave showed a definite focal variation on the right side, which may have indicated a lesion requiring surgical intervention, clinical judgment superseded the electroencephalographic findings and surgical procedures were postponed. Subsequently the electroencephalograms were of value in showing a resolution of the focus (Figure 4). These electroencephalograms also emphasize the point that the electroencephalographic findings do not differentiate between true structural changes and reversible physiological changes. Certainly in this case the changes were reversible, similar to those of a reversible physiological block seen in nerve lesions."

It seems certain that convulsions and meningoencephalitic symptoms, not febrile in origin, occasionally occur in cases of exanthem subitum. The often repeated statement that exanthem subitum has no important complications or sequels is based, chiefly, on failure to differentiate febrile convulsions from seizures due to organic lesions.

An accurate diagnosis of febrile convulsion is usually possible if one adheres to the criteria established by Bridge[5] and by Livingston.[15] The following characteristics are generally accepted. A simple febrile convulsion is a generalized seizure of short duration (about 1 to 15 minutes). It occurs soon after the onset of fever but may occasionally be delayed six to ten hours. The fever may be as low as 101°F. but is usually 103°F. or higher; and the more rapidly the body temperature is raised, the more frequently do convulsions develop. Localized features and neurological abnormalities are absent except for the occasional presence of hyperactive reflexes. Recurrent convulsions are infrequent and usually take place within two to four hours after the initial seizure and not later than 12 to 18 hours. The blood sugar, serum calcium and phosphorus determinations are within normal limits. The seizures are most common during the first three years of life and very rare after the sixth year. To this description may be added the observations that febrile convulsions appear to show excellent response to barbiturates and that the interseizure electrocardiogram is normal.

No studies have been recorded of the anatomic alterations associated with the nervous manifestations of exanthem subitum. Speculation concerning the nature of this complication is possible by analogy with the cerebral disturbances of other acute infectious diseases. The cerebral complications that follow measles, mumps, chickenpox, smallpox and injections with cowpox or rabies vaccine are alike in that the myelin is destroyed in minute perivascular or subpial foci, the axis cylinders are damaged to a much less degree and necrosis of interstitial tissue does not occur (Adams and Weinstein[1]). Hemorrhages and vascular lesions have been described[21] and Ford[8] expressed belief that vascular occlusions are probably responsible for persistent focal signs such as hemiplegias. In seven instances of acquired hemiplegia following acute infectious diseases and in two instances in apparently healthy children (Marie-Strumpell encephalitis) Ford and Schaffer[9] found evidence of some type of local vascular accident at operation or at autopsy.

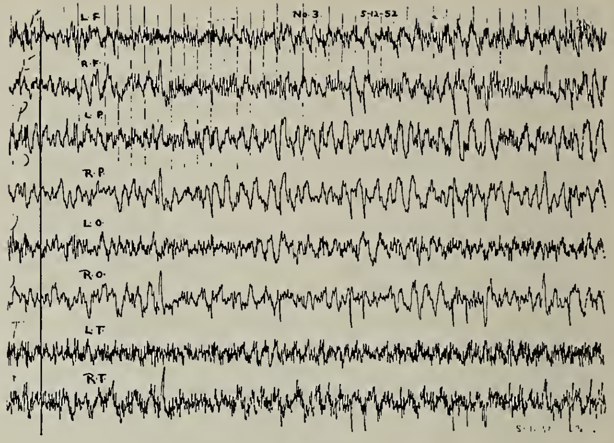

Figure 3.—Electroencephalogram of May 12, 1952 shows a considerable amount of muscle activity in the bifrontal and bitemporal areas. However, the cortical activity remained about the same as in Figure 2.

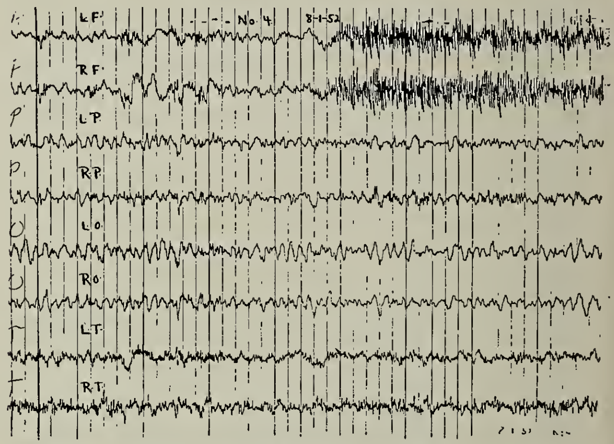

Figure 4.—Electroencephalogram of Aug. 1, 1952 shows again muscle activity in the bifrontal and bitemporal areas. However, the cerebral activity is within normal limits.

Rarely has an organism been isolated from the cerebrospinal fluid or brain in cases of infectious diseases with encephalitic complications. The fact that monoplegia and hemiplegia constitute the only residual neurological manifestations of exanthem subitum is unique and suggests a thrombosis, hemorrhage or simple vasoconstriction of a cerebral artery.

The supposition that the hemiplegia associated with exanthem subitum is due to the convulsions *per se* has been generally accepted. Little is known concerning the transient disturbances designated as postconvulsive phenomena.[10] They consist of general symptoms such as weakness, headaches, restlessness, irritability, abnormal behavior, stupor, coma, mental confusion and local symptoms such as hemianopia, various types of aphasias and palsies (Todd's paralysis). These phenomena may persist for minutes, hours or days; rarely are they permanent. They have been attributed to acute cell alterations secondary to vasoconstrictions. That such constrictions may cause focal ischemia has been proved by Echlin's[6] experiments but, as emphasized by other investigators, their culpability in a particular instance is difficult to adduce. More recent studies lend support to the view that postconvulsive phenomena may be due to vascular lesions, probably thrombotic in nature and perhaps more often venous rather than arterial. Mitchell[18] described two cases of convulsions with acute infantile hemiplegia and features pointing to intracranial venous thrombosis as a cause.

In the absence of any pathologic studies of the brain in exanthem subitum, one may tentatively conclude that the nervous symptoms described by Faber and Dickey[7] and the prolonged convulsions and hemiplegias described by other observers represent one or a combination of the following disorders: Nonspecific febrile alterations, acute disseminated or focal encephalomyelitis, general and focal vascular lesions.

Some help in the differential diagnosis of these disorders may be obtained by the interpretation of serial electroencephalographic changes in conjunction with the history and clinical findings. That fever itself without convulsions or evidence of a cerebral infection may produce electroencephalographic abnormalities has been emphasized by several observers. The changes usually consist of slow high voltage waves. Livingston noted that these abnormalities persisted in a few cases for at least three days after the patients became afebrile. Lennox and co-workers[14] expressed belief that slow waves which outlast the fever probably indicate brain injury and that the duration of slowing is related to the severity of the damage. They said that the return of the tracing to normal is not necessarily indicative of the reversibility of cellular damage but rather of the lack of influence of damaged cells on the electrical activity of the remaining normal neurones.

Baird and Garfunkel[3] recorded tracings in 12 children between 3 and 6 years of age before, during and after the intravenous injection of typhoid vaccine. The tracings of all the subjects were interpreted as normal before the injection of vaccine. During the artificially produced hyperthermia the most pronounced changes usually occurred during the rise in temperature and consisted of high voltage slow waves, spike and wave formations and an increase in delta activity. Electroencephalograms always returned to normal within three days and usually within 24 hours. The alterations were the same, irrespective of whether or not there was a previous history of convulsions. The need for caution in the interpretation of abnormal tracings during a febrile illness as indicative of disease of the central nervous system was emphasized.

Although febrile alterations of the central nervous system undoubtedly occur in exanthem subitum, the development of convulsions before the onset of fever in the case herein reported is particularly significant. This chance observation plus the associated hemiparesis and electroencephalographic disturbances provide evidence of the presence of a focal organic cerebral lesion directly related to the actual infection. Some additional help in future investigations of the nature of this lesion may possibly be obtained by determinations of spinal fluid transaminase activity. Green and co-workers[12] recently demonstrated significant elevations in the activity of this enzyme in patients with cerebral infarctions.

COMMENT

The significance of mild and supposedly transient brain involvement associated with the acute infectious diseases has been the subject of considerable discussion. It is recognized that encephalomyelitis complicating measles may be so mild as to go undetected at the time of the acute exanthem, only to become manifest years later when pronounced abnormalities in behavioral patterns appear (Adams and Weinstein[1]). It has also been emphasized that abnormalities in mental functioning may occur in children who recover from encephalitis and that such disturbances may not be apparent in a quantitative appraisal of intelligence in terms of mental age or intelligence quotient. Meyer and Byers[17] directed attention to a change in the belief that disturbed behavior is necessarily produced by the action of the disease on the cerebrum to the concept that it ". . . is the result of the impact of environmental demands upon cerebral function qualitatively altered by disease."

In view of these observations it is not easy to accept the almost universal belief that exanthem subitum is a benign disease. It would, however, be extremely difficult to relate delayed behavioral abnormalities to this disease unless overwhelming statistical evidence confirms what must at present be considered a very remote possibility. The transient changes in behavior in the patient described herein led us to the same conclusion as that stated by Applebaum[2] in respect to measles encephalitis, namely, "We are not, however, certain that the deviations in behavior are directly due to encephalitis, for some of them could be explained perhaps equally well on the basis of parental attitudes, such as maternal overprotection after an illness or other environmental influences."

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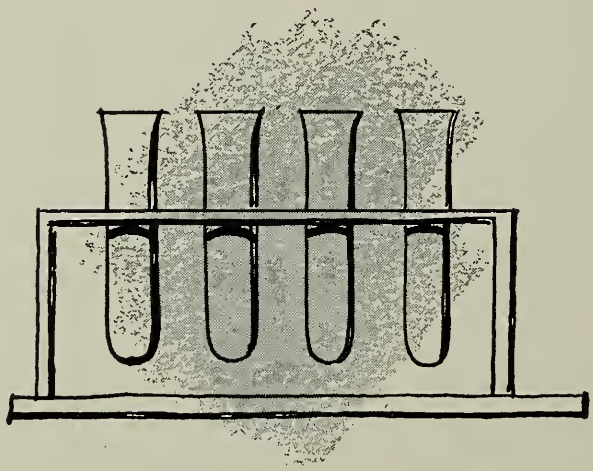

The Role of Pediatricians in General Hospitals

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• Besides the responsibilities of his own personal patients, the pediatrician has a community responsibility toward the hospital which is his workshop. His area of interest may include proper standards in the field of newborn and premature care, and control of communicable disease and hospital-acquired infection not only in the nursery but in the entire hospital—particularly staphylococcal infections. Finally, the pediatrician should see to it that not only the pediatric ward but the hospital as a whole, and the personnel working in it, provide a suitable emotional climate for the sick child.

It is the traditional privilege of the chairman of a section to express his own feelings, and perhaps prejudices, to the section at the end of his period of service. I have taken advantage of this opportunity in order to highlight a few points with respect to the pediatrician's role within the general hospital community which are of particular interest to me.

As we all know, the practice of pediatrics is not primarily practice in a hospital. The modern trend has been unmistakably toward outpatient care of most illness, no matter how severe. The mother makes a pretty good nurse at home, the patient can be seen there almost as often as in the hospital, and children—by and large—prefer to stay at home.

Therefore, if one uses the criterion which seems to be the most intelligent—namely: What can be done for the child in the hospital that cannot be done at home?—one gets down, fundamentally, to a small number of sick children who have to be in the hospital for reasons of (1) surgical operation, (2) administration of oxygen or intravenous fluids, (3) critical illness requiring expert nursing care, (4) parental anxiety, which prevents the care of the child at home, or (5) a difficult social situation at home which makes hospitalization desirable.

It has been the experience of most practicing pediatricians, as well as of hospitals, that the census of strictly medical pediatric cases has declined greatly in the last ten years and that a good proportion of the children in hospitals are there for surgical treatment. Hence, pediatricians do not have so commanding an interest in the operation of the hospital as do surgeons. Additionally, it is notorious that pediatric wards are not money-makers in general hospitals—fewer expensive procedures are done, relatively speaking, and the charges are likely to be smaller, whereas the cost of nursing care is higher, because of the bottle feedings and other attentions little folk require. Thus, hospital administrators perhaps might not look at the pediatric ward with too much favor.

However, when the pediatrician does need the services of a hospital, he usually needs them urgently for an acutely ill patient, and he expects to find all the facilities at his disposal and would be unhappy if he did not find them there. If they are not there, it is probably because he and his fellow pediatricians were not sufficiently interested or sufficiently aggressive in seeing that the hospital provided them, and provided them properly.

With these points in mind, I would like to go over some areas briefly which should be of particular interest to the pediatrician in the hospital setting. I shall not cover all areas, but will highlight those of interest to me.

1. *Physical standards of newborn and premature care, as well as physical facilities on the pediatric ward.* This is the time-honored and traditional area in which pediatricians have always been uniquely interested. Here it is elementary that a pediatrician or a group of pediatricians, working in a hospital would be concerned vitally with the kind of newborn nursery that is available, with the routines and techniques set up in such a nursery, with the quality of nurses who work there, with isolation facilities, the availability of incubators and resuscitation equipment. The State Code for Hospital Construction and Recommendations of the American Academy of Pediatrics Committee on Newborn and Premature Care provides very helpful yardsticks by which to measure such facilities.

Basic rules for administration of oxygen and periodic oximeter determinations are extremely important, in order to utilize the knowledge currently available about prevention of retrolental fibroplasia. Availability of equipment and familiarity of personnel with exchange transfusions are of unlimited value when an erythroblastotic baby appears on the scene. Adequate records, not only of the initial examination of the newborn but also of his condition on discharge, can be extremely important at a later time to the hospital, the physician and the infant

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involved. A very valuable adjunct in the operation of a superior nursery is the routine discussion at a mortality conference of every death that occurs in the nursery. This will keep the staff wholesomely critical, will lead to improvements in methods and, if mistakes are made, will help avoid repetition of them.

Certain unique laboratory procedures might be required by the pediatric patient, such as the determination of electrolytes in sweat, trypsin determination in the duodenal fluids, the emergency Coombs test and bilirubin determination by the micromethod. Many of these will not provide lucrative revenue and some might not even pay for themselves; yet, it is very important that they be available. Frequently, the hospital administrator and the laboratory are willing to provide special laboratory determinations if someone makes a strong plea for them, but the plea ought to be made before any of these determinations is vitally and urgently required.

2. *The staphylococcal problem in the nursery and the hospital at large.* This is not a new area of interest, but one which has acquired increasing importance over the last few years. Many outbreaks of serious staphylococcal infections in both infants and mothers have been reported throughout California. These hospital-acquired infections are frequently caused by organisms that are resistant to almost all antibiotics and make management difficult and frustrating.

There is rapidly accumulating evidence that staphylococci acquired in the nursery by newborn infants might be an important source for the spread of these organisms among the population at large. In order to deal with this problem intelligently, one must be aware of the epidemiologic situation at all times with respect to (a) the methods of transmission of the staphylococci, so that the chain might be broken in an intelligent manner, and (b) the antibiotic sensitivity of the currently predominant strain, so that proper treatment might be given.

The nursery for newborn is only a small part of the general hospital, but the rest of the hospital is not spared by the staphylococcus. The incidence of postoperative staphylococcus infection is rising on many surgical services. This cannot be handled by the routine pre- and postoperative use of penicillin or streptomycin or both. The problem is one which involves the entire hospital. The pediatrician who can draw on his experience in the nursery for newborn is in a good position to take the lead in tackling the problem in the entire hospital.

The hospital-acquired staphylococcal infection is dreaded because within the hospital walls the staphylococci have had the opportunity to come in contact with and become resistant to every antibiotic so far discovered.

It is fortunate that the pharmaceutical industry has been able to continue to bring out new antibiotics as the staphylococcus became resistant to all those which existed previously. However, this race with the resistance-acquiring staphylococcus is a close one, and we cannot have any assurance of maintaining the lead. Another avenue of approach has recently been attempted: Several hospital staffs in San Francisco have decided, voluntarily, to limit the use of the newer antibiotics, such as novobiocin, to serious staphylococcal infections and thus preserve their usefulness. This is mentioned as another possible field where pediatricians might take a lead.

3. *Care of patients with communicable diseases.* Another major trend has been the rapidly falling census in isolation hospitals and isolation wards, which has led to the closing of a number of such facilities. If the present decrease in cases of poliomyelitis cases is maintained—as we all hope it will be—the closing of isolation hospitals will probably accelerate. The general hospital then will be in a position of having no choice but to provide facilities for the occasional patient with communicable disease who needs hospital care. This is right and proper; however, adequate techniques are required for the protection of hospital personnel and other patients. Frequently "isolation" signs and gowns at the patient's bedside are treated as though they were there for the nurses only; a busy physician who orders the "isolation precautions" may neither enforce them nor observe them himself.

What is needed is an enlightened and strict epidemiologic guardian committee to prevent cross-infection in hospitals. Since the advent of antibiotics, there has been a tendency to take less care in dealing with infectious patients and infected materials. A patient with infectious disease may be placed in a bed adjoining an uninfected patient recently operated upon. A child with infected eczema certainly presents a hazard for others, and a child with a vaccinia reaction to a smallpox vaccination is a threat to any child with eczema.

There are problems which are of great moment for the hospital as a whole but to which the attending physician, whose attention is focused on his own patients' welfare, may not pay sufficient attention. Here, too, the pediatrician—particularly when he is acting as a member of an epidemiology committee—is in a position to make a genuine and important contribution to the hospital's welfare.

4. *Emotional climate of the hospital.* Last, but not least, I would like to take up the subject of the emotional climate in the hospital. Much has been written and said on the child's response to being put in a hospital and on the proper preparation of

children for the event. The practicing pediatrician may do a magnificent job in preparing the child and his parents for a stay in hospital. However, this will be of little value if the hospital routine and the attitude of its personnel create anxiety in child and parent.

As an example, I might cite a practice which was routine in one pediatric ward for about 25 years, but was corrected a year and a half ago: All children scheduled for tonsillectomy on any given day were put in the same ward room and taken to the surgery one by one. Thus, the child who was fourth or fifth on the schedule had ample opportunity to see those who preceded him in the immediate post-operative state. The professional personnel in the hospital must have been aware of the problem, for each tried to see to it that his own patients were put first on the schedule; but it took a long time to provide a solution to this problem, for everyone. This is a rather extreme example for purposes of illustration, although each one of us could cite numerous examples of a smaller degree which occur daily.

Parents often are regarded and treated as a necessary evil at visiting hours; children are likely to be taken from the presence of the parents for tests, procedures and even surgical operation without a word of explanation—thus contributing to anxiety. Ward rounds may be an upsetting experience through the thoughtless discussion at the bedside of a child who may not understand all that goes on but understands enough to be anxious.

The pediatrician in the hospital setting is the key man in the creation of a good emotional climate for the child. What he does in his office by way of preparation or in the hospital during his own visit is not enough. He must take the lead in the education of the nurses, the ancillary hospital personnel, and his colleagues; he must investigate such hospital routines as admission procedures, visiting hours and ward rounds with the idea of making a hospital entry for a child, if not an entirely pleasant experience, at least one which would not terrify or leave undue scars. Periodic review of ward routines and, particularly, reactions of individual children and parents will keep this aspect of hospital care in focus.

I have reviewed but a handful of the areas of interest within a hospital organization which the pediatrician may pursue. There are other and perhaps more important areas which I have not touched upon. If the pediatrician in making his daily rounds will keep some of these aspects of hospital care in mind and will do something about them, he will contribute greatly to the hospital as a place where children might be born without complication, and be treated or operated upon without undue hazard or unpleasantness.

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Social Security Footnotes

In one way or another, on one excuse or another, social security tax payments are being boosted every year or two instead of at five-year intervals as originally planned. In 1954, the base was raised from \$3,600 to \$4,200. In 1956, the tax rate was increased. Now, Representative Kean wants to raise the base rate from \$4,200 to \$4,800 beginning in 1959. Then in 1960, the tax rate is scheduled to increase ½ per cent for both employee and employer, and ¾ per cent for the self-employed. There is no way of knowing just how expensive social security "insurance" to actually going to be.

—From the Department of Public Relations, American Medical Association

Intra - Abdominal Injuries

A. E. ALLEGRINI, ***M.D.,*** **Santa Cruz**

• With the increase in mechanization, the incidence of intra-abdominal injury is increasing. Bleeding, contamination or impairment of function of an intra-abdominal organ must be diagnosed early and dealt with immediately. Serial determination of hemoglobin and cell volume of the blood are useful diagnostic procedures.

The older teachings of waiting for a patient to recover from shock before operating are to be decried. Immediate operative intervention to close a ruptured stomach, bowel or bladder, or to suture or remove may be necessary to save the life of the patient.

INTRA-ABDOMINAL INJURY without penetration, while relatively infrequent, may present one of the most difficult of all problems in early diagnosis. Increased mechanization in industry has brought about a greater incidence of intra-abdominal injury. Penetrating injuries to the abdomen are of lesser importance only because the attention of the examining physician is immediately drawn to the site of injury. Early decision and proper intervention are required to reduce the mortality rate associated with nonpenetrating injury, which in many circles is considered to be 20 to 30 per cent. It is the purpose of this paper to discuss briefly the approach to a patient suspected of having an intra-abdominal injury and to comment on diagnosis and management.

DIAGNOSIS

The diagnosis of injury to an abdominal viscus is rarely possible immediately after an accident. The history of injury is of the greatest importance. Sudden sharp blows to the abdomen are more likely to cause injury to a viscus than is pressure slowly applied. A sharp blow is more likely to rupture a distended viscus than an empty one. In obtaining a history, it is important to note whether the injury was diffuse or localized. Was there an associated injury to the back and/or pelvis? If there has been vomiting, the character of the vomitus should be elicited. Changes in bowel and urinary function should be noted as well as the color of the recent stool or urine. It should be noted also whether, immediately after injury, the patient had any pain in the abdomen that is not present at the time of examination. Observing the rate and character of the pulse, respiration and blood pressure is essential. The abdomen and the back should be inspected for evidences of localized trauma. Gentle, thorough palpation of the abdomen for areas of tenderness, rigidity and guarding must be done. Rebound tenderness is a good clue to peritoneal irritation. Percussion to note absence of dullness over the liver, a fluid wave or shifting dullness is also essential. Dullness to percussion which does not shift is indicative frequently of retroperitoneal trauma. Rigidity, from severe contusion or hematoma of the abdominal wall itself, may be very confusing and is usually late in onset.

On occasion, tapping the abdomen is of value in diagnosis. If there is air, blood or contaminated fluid free in the abdominal cavity immediate operation is called for. A "negative" tap, however, is meaningless. Advanced extraperitoneal hemorrhage will frequently cause all the signs and symptoms of intraperitoneal hemorrhage or ruptured viscus. Adequate, early examination will usually differentiate the two. An excretory urogram and cystogram should be made in all cases of suspected injury to the urinary tract. Simple measurement of bladder capacity is unreliable. An indwelling catheter is valuable as a means of constantly observing urinary function. With fracture of the lower ribs, lumbar vertebrae, transverse processes or pelvis, urologic trauma is to be considered until disproved. X-ray studies are of great diagnostic value in all intra-abdominal injuries. Repeated examinations are often required for adequate diagnosis.

MANAGEMENT

On admission to the hospital, immediate attention should be given to the patient's general condition. A patient in shock owing to abdominal trauma or to associated injuries should receive transfusions of whole blood while other studies are progressing. Occasionally it is necessary to use vasopressor substances to maintain an adequate blood pressure. If the patient remains in shock after several transfusions of whole blood, and there are no other findings to explain the state of shock, intra-abdominal hemorrhage must be assumed until there is proof to the contrary. Immediate operation may be required to establish a diagnosis and find the bleeding area. Serial hematocrit determinations are essential in the diagnosis. Procrastination with patients in shock due to hemorrhage is to be decried. In the more serious

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cases, multiple, simultaneous transfusions in several extremities and transfusion under positive pressure is sometimes required before and during operation. Waiting for the systolic blood pressure to reach 100 millimeters of mercury before surgical intervention may be fatal.

A gastric suction tube should be placed intranasally in all cases in which intra-abdominal injury is suspected. With the abdomen open, the tube may be directed into the duodenum if necessary.

From the time examination of the patient is begun and throughout the surgical procedure, blood and fluid replacement should be carried out as exactly as possible. Vomitus, stool and urine should be measured and losses of fluid replaced with appropriate intravenous infusions. During the immediate postoperative period, every effort should be made to maintain urinary excretion at a minimum of 1000 cc. in 24 hours. Careful consideration must be given to the contents of fluids that are infused; the maintenance of proper electrolyte balance is an essential part of good management in postoperative care.

Injuries to the stomach and small intestine usually require suture only, while those involving rupture of the large bowel may require exteriorization or diversion of the fecal stream. Sometimes it may be necessary to mobilize the large bowel in order to locate the site of rupture. Recently in a case in which operation was done less than six hours after injury, I closed a large bowel rupture without colostomy. Adequate use of appropriate antibiotics for effective sterilization, both locally and systemically, is necessary to make this a safe procedure. Perforated diverticula have been similarly treated. Decision as to whether primary closure, with or without diversion of the fecal stream, is to be done depends upon the extent of injury and the amount of contamination of the peritoneal cavity. Usually drains should be placed in cases of retroperitoneal large bowel injuries. Penetrating rectal injuries usually require colostomy with adequate drainage. Extensive mesenteric tears may call for resection if the blood supply or peristaltic function of the involved segment is impaired. Hematomata of the mesentery must be removed and bleeding vessels ligated, as they might otherwise cause intestinal obstruction later. In some cases injection of procaine into the mesenteric border of the bowel will bring about peristalsis in a section in which peristaltic action seems to be impaired and thus prevent need for resection of it. Bowel with detached mesentery should be resected. If the spleen is ruptured splenectomy must be done immediately. Pancreatic injury requires sutures and drainage. If Wirsung's duct is patent, the duct of Santorini may be ligated. Injury to the pancreatic duct, of course, requires repair with possible anastomosis to the bowel. Tears in the liver must be sutured, and the use of Oxycel,® Gelfoam® or similar preparations may be life saving. In gallbladder injuries, simple suturing or cholecystectomy with drainage is usually indicated. Urinary bladder injuries require immediate operation and adequate drainage both through the wound and through an indwelling catheter. Frequently, in cases of injury to a kidney, operation is not necessary unless there is persistent shock and an enlarging retroperitoneal hematoma.

Cyclopropane anesthesia is usually considered the safest for patients in shock, but facilities for administering it are not everywhere available. The author regularly uses oxygen and nitrous oxide endotracheally, supplemented with Anectine® (diacetylcholine chloride) and Demerol® (meperidine hydrochloride) intravenously. Pentothal is used in minute amounts, with full awareness of its potential hazards. In dealing with injuries in children, ether by drop is used exclusively.

REPORTS OF CASES

CASE 1. A middle-aged woman had been struck a heavy blow in the abdomen by her husband's fist the previous day. Diminished peristalsis was noted and there was a definite fluid wave in the abdomen and board-like rigidity, more pronounced on the right side. Pain was severe. The patient had vomited several times. No abnormalities were observed roentgenographically. Slight anemia was present and the hematocrit showed decreased cell volume.

A right paramedian incision made at the site of the blow exposed a bulging, discolored anterior rectus sheath. It was incised and huge clots of blood were removed. The patient had a ruptured inferior epigastric artery with perforation of the parietal peritoneum. Free blood and clots were removed from the abdominal cavity. No other abnormalities were noted. The torn vessel was ligated and recovery was rapid.

CASE 2. The patient had struck his abdomen against the steering wheel of his car in a collision. At the time, he felt severe pain, which lasted only a few minutes. He was able to walk about without discomfort. About an hour following the accident, he again had severe pain in the upper abdomen and vomited once. He was admitted to the hospital and upon examination it was noted that the abdomen was rigid and peristalsis absent. Before preparation of the patient for operation was begun, x-ray films of the chest and abdomen were taken. A plain film with the patient upright showed no abnormality, but free air was noted in the lateral exposure. At operation a perforation of the jejunum was found about 20 centimeters from the ligament of Trietz. This rupture was sutured and recovery was uneventful.

CASE 3. A young man with a history of peptic ulcer of many years' duration was seen shortly after a minor fall against the edge of a table. He complained of severe upper abdominal pain and on examination board-like rigidity rapidly developed in the upper abdomen. Because of the previous history and classical findings on physical examination, the diagnosis was readily made. A perforated duodenal ulcer was observed at operation. Subtotal gastrectomy was done and the patient completely recovered.

Case 4. A bartender, injured by a customer who gave him a playful "bear hug," had discomfort in the left upper abdomen the next day and consulted a physician. He was permitted to continue work and for some time had no severe symptoms. Some weeks later he again sought medical attention because of a feeling of fullness in the abdomen. A large tender mass was palpable in the left upper quadrant. No other abnormalities were noted on physical examination. A plain film of the abdomen showed obliteration of the splenic shadow in the left upper quadrant which was replaced by a large and irregular density. Slight anemia was present. Laparotomy was done. The spleen was ruptured and there was a massive hematoma at the site and free blood in the abdominal cavity. After splenectomy the patient recovered completely. Notable factors in this case were that trauma was owing to pressure rather than a sharp blow and there was no evidence of rib fracture.

Case 5. A 68-year-old man was operated upon in 1956 because of an abdominal mass of increasing size. The patient said that some 47 years previously, while employed as a carpenter, he fell 46 feet, fracturing a vertebra, several ribs and a foot. There was no mention then of intra-abdominal injury. Some 35 years later, in 1944, a mass was noted in the right upper quadrant of the abdomen. Operation was advised but the patient refused. Then, in 1956, because of increase in size of the abdominal mass and general discomfort, laparotomy was done. At operation a huge lobulated mass arising from the left lobe of the liver was removed. It was approximately 45 cm. in diameter and weighed 8.2 kg. Pathological diagnosis was cavernous angioma. It was believed that this lesion was due to the trauma that had occurred 47 years before. The postoperative course was uneventful and the patient was discharged on the ninth postoperative day.

Case 6. An elderly woman, jerking upon a garden hose to free it from entanglement, lost her balance and fell against a stone walk. In falling she received a blow to the abdomen on the right side. Upon examination a large contused and abraded area in the right upper quadrant of the abdomen was noted. There was pronounced tenderness in that area with slight guarding and doubtful rigidity. Rebound tenderness was present and peristalsis was active. Because of the persistent pain and rebound tenderness, the possibility of injury of the gallbladder or liver, with hemorrhage, was considered. Free bile was aspirated from the right lower quadrant of the abdomen. At operation the gallbladder was seen to be ruptured and cholecystectomy was done. The patient recovered.

Case 7. A young man sought medical advice because of severe, diffuse abdominal pain which he said had begun suddenly while he was "rough-housing" with his children. The patient had been under the care of another physician for the preceding several months and no abnormalities had been noted in results of laboratory tests on physical examination. Cystoscopic examinations had been done because of a history of passing gas through the penis, and no abnormalities were observed. The patient then had been referred to a psychiatrist, who made no diagnosis. The symptoms persisted.

The patient said there had been no vomiting or diarrhea but that he had had pain in the left central portion of the abdomen for several months and had required frequent medical attention. Upon examination, when first seen by the author, rigidity of the abdomen and decided tenderness to percussion and palpation, especially in the right lower quadrant, were noted. Peristalsis was diminished. A presumptive diagnosis of perforated appendix with peritonitis was made. At operation, regional enteritis with perforation into the peritoneal cavity was observed. The ileum was inflamed and thickened and strongly adherent to the bladder, the serosa of neither being indefinable. The bowel was freed from the bladder, which was repaired with difficulty. The diseased portion of the ileum was resected and a side-to-side anastomosis to the ascending colon was made. The appendix was normal. The patient recovered. There was no further passage of gas through the penis.

1700 Mission Street, Santa Cruz.

No. 1 Killer

Fourteen per cent of automobile drivers are under 25 but they are involved in 28 per cent of the fatal smashups—or twice their theoretical share. There are 11 million of these young drivers today, but there will be 15 million by 1965.

CASE REPORTS

Multicentric Paragangliomas—Vagal and Carotid Body Tumors

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THE CASE HERE PRESENTED is the seventh case of a tumor of the vagal body to be reported in the medical literature. Also in the present case there was independent origin of a second tumor of the right vagal body and a third tumor of the right carotid body.

REPORT OF A CASE

The patient, a 51-year-old Negro woman, was first observed June 13, 1955, with complaint of a decrease of 25 pounds in body weight over the preceding two years and increasing difficulty in breathing and swallowing.

About ten years previously the patient had had a tumor on the left side of the neck which was treated by x-ray therapy in another city and she had had "some kind of operation inside my mouth." She had had no previous other severe illnesses and no operations. Her mother was alive and well, her father's whereabouts unknown. She had two brothers and one sister, all alive and well.

Upon physical examination, moderate exophthalmos was noted. In the throat a smooth swelling extended over the right side of the pharynx. It did not pulsate and was quite firm. The tip of the tongue protruded to the left side. A mass in the larynx extended to the right pyriform sinus, obscuring the right vocal cord from view. The mass pushed past the midline and was immobile. A large mass on the left side of the neck displaced the trachea to the right. This displacement was observed roentgenographically also. There was considerable stridor on breathing. The blood pressure was 125/85 mm. of mercury and the heart and lungs were normal. There was a tender pelvic mass which was thought to be either residual from pelvic inflammatory disease or fibroid formation. The protein-bound iodine content was 6.5 micrograms per 100 cc. of blood. No abnormalities were noted in the blood. The result of a Kahn test was negative.

A tentative diagnosis was made of carcinoma of the thyroid with metastasis and possible infiltration of the trachea. The patient was operated upon July 2, 1955, through a transverse low collar incision. A large thyroid adenoma on the left side which pushed the trachea to the right was removed. The right thyroid lobe appeared to be normal and no evidence was seen of carcinoma of the thyroid. The pathological report on the tissue removed was: Adenomatous left lobe of the thyroid gland.

As it was noticed during the operation that the patient had considerable difficulty in breathing, tracheotomy was done and the postoperative course was uneventful.

The patient was again operated upon on November 17, 1955, and the right side of the neck was more thoroughly explored. Upon exposure of the bifurcation of the carotid vessels a tumor was found which seemed to be densely adherent to the common carotid artery. In attempting to remove this tumor, the external carotid artery was opened and was tied. An attempt to remove it from the internal carotid also caused damage to the vessel, so that severe bleeding occurred on two occasions. The vessel was sutured and it was decided to let the tumor alone. A biopsy specimen was taken and upon examination of a frozen section it was observed to be a carotid body tumor. It was recognized that the position of this tumor was such as to cause the disturbances that could be seen in the right side of the larynx but did not explain the soft tissue mass which pushed the right pharynx forward. Therefore dissection was carried higher into the neck and another tumor was found quite close to the base of the skull. A specimen was taken from it, too, and the tissue was similar to the carotid body tumor. This seemed to be a separate tumor, as there was no direct extension between the two. As we were unwilling to tie the internal carotid artery, operation was abandoned. The patient made uneventful recovery.

On December 2, 1955, a Silverstone clamp was placed on the right common carotid artery in order to occlude it gradually, so that later the tumors could be removed without difficulty. After seven days the artery was completely occluded, but several times the wound bled profusely. No bleeding point could be found on exploration, and after several weeks the patient was discharged.

On January 20, 1956, the Silverstone clamp appeared beneath the skin, apparently having com-

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From the Departments of Pathology and Surgery, Fresno Community Hospital.

Submitted July 24, 1957.

pletely eroded through the common carotid artery. This was no doubt caused by severe coughing spells which were attributed to the tracheotomy. The clamp was therefore removed and the patient was sent home to recover.

When examined February 27, 1956, it was observed the patient had gained weight. There was apparently a partial paralysis of both vocal cords and the voice was not completely recovered.

On March 30, 1956, the old incision was reopened and the common carotid artery was removed along with the carotid body tumor, and the tumor at the base of the skull was also removed. This was possible because the carotid artery had previously been occluded and there was no danger of contralateral paralysis.

The patient recovered quite rapidly from this operation, and when examined a year later there was no evidence of recurrence of the tumor, although the voice was not fully recovered.

From a hospital in Nebraska where the patient had had operation for removal of an enlarged tonsil in October, 1943, additional medical history was obtained. In March, 1943, the patient's family physician attempted to remove the tonsil, but enlargement recurred. In May, 1943, another physician applied electric cautery to the site. In July, 1943, daily high voltage x-ray treatments over the left tonsil area were given, using the following factors: 200 kilovolts with 0.5 mg. copper and 1 mg. aluminum filter; 200 r daily, with a total dosage of 5,400 r units. The tonsil did not decrease in size and surgical removal was recommended. When the patient entered the hospital, the left tonsil was enlarged to beyond the midline of the throat and the palate was adherent to it. In the operation, the palate was freed from the tonsil and the tonsil dissected out with electric cautery. The dissection was very difficult and a large artery was opened on which it was necessary to leave clamps, to be removed in two or three days.

The pathological diagnosis was adenocarcinoma, grade III, origin unknown. Hematoxylin and eosin stained slides that were sent to us from the hospital in Nebraska showed a structure indistinguishable from that observed in the tumor removed from the right side of the neck. In view of these observations, we believe that the patient had had a vagal body tumor on the left side and a carotid body tumor and another vagal tumor on the right side.

Pathologic examination. The specimen consisted of five sections of irregular, rubbery, reddish-brown tissue up to 0.8 cm. in greatest dimension. Cut surfaces were homogenous. One specimen appeared encapsulated. Another, that was 4.0 cm. in greatest dimension, contained a segment of the carotid artery 2.5 cm. long. Upon microscopic examination of sections all parts of the tumors submitted for examination were noted to be essentially similar in appearance. There were compactly arranged small groups of tumor cells supported by a scant, delicate vascular stroma (Figures 1 and 2). Dividing these groups into larger lobules were anastomosing bands of moderately dense fibrous tissue. The cells had moderate-sized round regular nuclei with an abundance of finely granular, pink-staining cytoplasm. In places there was a decided variation in shape, size and staining qualities of the nuclei, but mitotic figures were not seen (Figure 3). In many areas the tumor infiltrated to a pronounced degree into the adjacent hyalinized connective tissue (Figure 4).

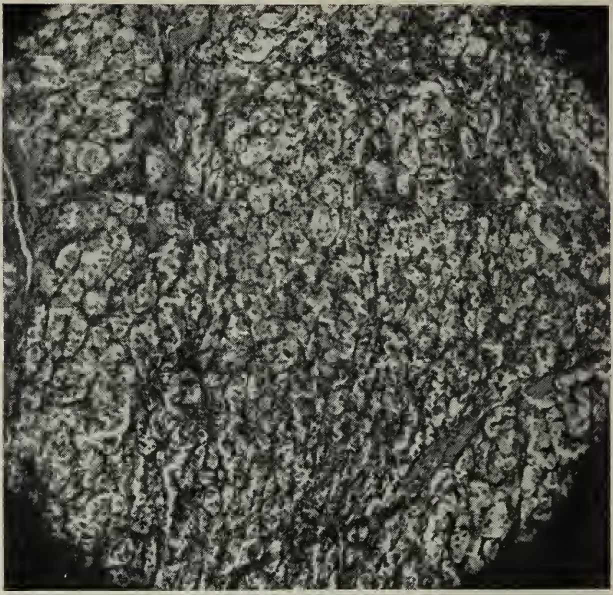

Figure 1.—Microphotograph of right carotid body tumor (hematoxylin and eosin stained, ×100).

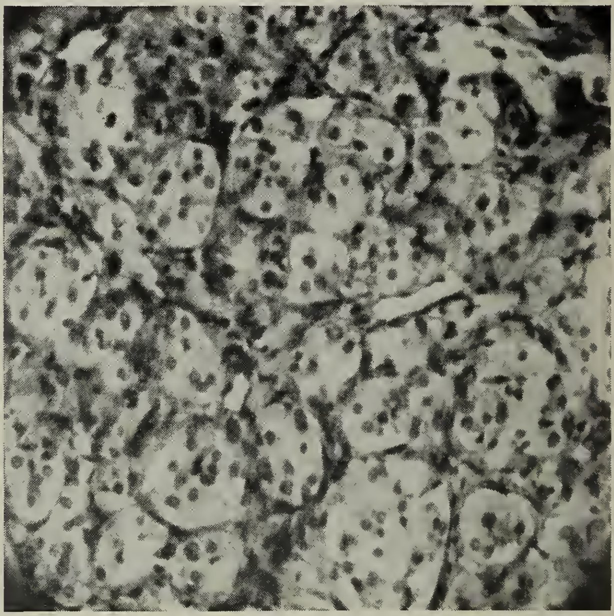

Figure 2.—Section through the left vagal tumor removed in 1943. This is the common variety in which are seen clearly defined nests of cells simulating the structure of the normal carotid body (hematoxylin and eosin stained, ×400).

DISCUSSION

Increasing interest has been shown to tumors of the so-called chemoreceptor system. This consists of

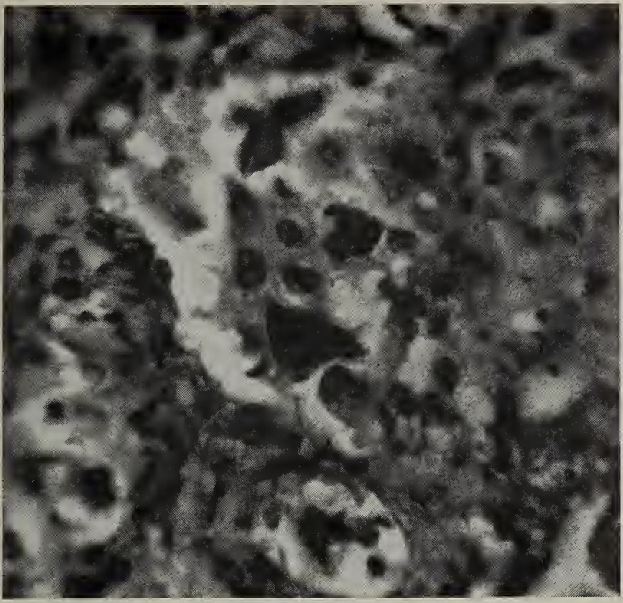

Figure 3.—Right vagal tumor showing an area of pronounced hyperchromatism and giant cell formation. This is not unusual in benign tumors of this type (hematoxylin and eosin stained, ×400).

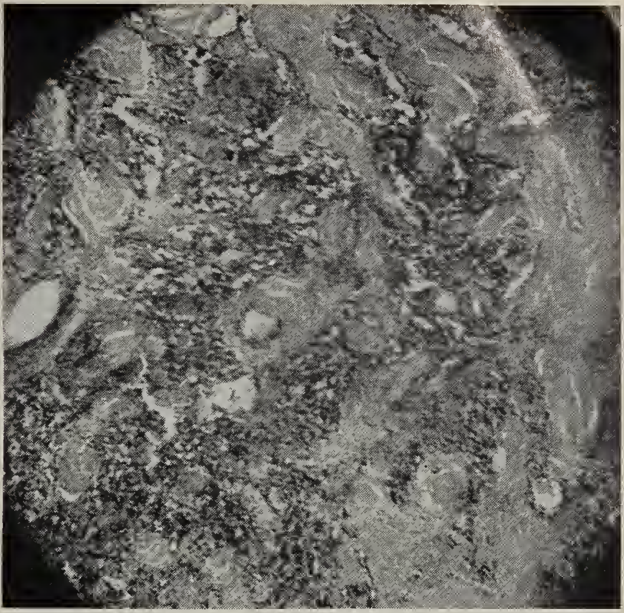

Figure 4.—Area of pronounced fibrosis and hyalinization which may account for the difficulty experienced in removing it (hematoxylin and eosin stained, ×50).

a group of bodies composed of nests of fairly uniform "chief" cells surrounded by a scant, very vascular connective tissue. This system is composed of (1) the carotid body, situated at the bifurcation of the common carotid artery, (2) the aortic bodies in the vicinity of the aortic arch, especially around the roots of the great vessels, (3) the glomus jugulare in the region of the middle ear, and (4) the ganglion nodosum of the vagus. It has not been established whether they are of ectodermal or mesodermal origin. They are not organs of internal secretion. They appear to have a chemoreceptor function and are sensitive to pH and carbon dioxide tension of the blood and are of possible importance in respiratory regulation. Unlike tumors of the adrenal medulla, they do not produce epinephrine or epinephrine-like substances and do not give a positive chromaffin reaction. Nor should they be confused with the presso-receptors of the carotid sinus and aortic arch.

Burman[1] reviewed four cases of vagal body tumors and added a report of one case. Laites[5] reported three cases. In one of them only the ganglion nodosum was involved. In another, involvement of the ganglion nodosus was associated with a carotid body tumor on the opposite side. In the third case there were three independent tumors, one involving the ganglion nodosum, one the carotid body and one the adventitia of the aortic arch. Stout and Birrell (cited by Le Compte[6]) presented one case each. Twenty-two cases of carotid body tumors were reported from the Lahey Clinic. In none of them was the growth proved malignant. Two of the 22 patients had pharyngeal enlargements which were thought to be an extension of the carotid body tumor to the base of the skull. No mention was made of the upper tumors' possibly being vagal body tumors. In the case reported by Burman there was evidence of metastasis to the pelvis, spine, lungs and skull. The presence of tumor cells in adjacent blood vessels in the case reported by Stout was considered evidence of malignant disease.

Anoxemia stimulates respiration to increase the tidal volume and accelerate the frequency of breathing. This is initiated in the chemoreceptor bodies by a decrease in arterial oxygen tension (PO_2). Since these bodies are attached directly to large arteries, the ascending aorta and external carotid, they sample, so to speak, the arterial blood as it passes through them rapidly. If these structures are removed, little or no acceleration of breathing occurs in response to a lowering of the arterial oxygen tension, for these chemoreceptor organs are not extremely sensitive to slight changes in arterial PO_2. They function only when anoxemia is severe. They thus act as an emergency mechanism, as when one inhales 16 per cent O_2 instead of 21 per cent. However, the mechanism functions even in the presence of deep anesthesia and severe depression of the central nervous system. The hyperpnea of anoxemia is well developed at the arterial oxygen tension which is at the beginning of the slope of the oxygen dissociation curve.[3]

Lahey and Warren[4] concluded that when it is necessary to tie the common carotid artery for the removal of a carotid body tumor, the carotid should not be tied unless there is proven malignancy in the tumor, or it has grown to such an extent that it pushes the pharynx forward and interferes with swallowing. Despite the fact that in the present case we had unusual trouble with the Silverstone clamp, we believe it is of great value when the common or internal carotid is to be ligated.

We believe that these rarely reported tumors are of greater incidence but are diagnosed as something else.

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Successful Completion of Pregnancy in a Patient with a Hufnagle Valve

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PLACEMENT of the Hufnagle valve[*] is a useful therapeutic expedient in patients with aortic insufficiency, since more definitive surgical operation has not proved practical thus far. The following is a report of the first patient with such a valve in place to successfully complete a normal pregnancy.

REPORT OF A CASE

The patient, a 21-year-old white woman, had a normal infancy and childhood until the age of seven years, when, because of sore throats, nosebleeds and rheumatism, she was out of school for most of the next five years. Tonsillectomy was done during this initial illness.

When the patient was ten years old the family moved to California from South Dakota. Soon thereafter she had "swelling" of her body, and was out of school and sick most of the time for the next 18 months. At age 18 there was another similar episode, because of which the patient was in hospital two weeks, and was confined in bed at home for three months. From then until the time of this report she had no arthralgia, fever or major respiratory tract illnesses. Her feet occasionally swelled in warm weather, but not otherwise.

When first observed by the authors in November, 1955, she was able to do her own housework and shopping, but could not climb stairs without dyspnea. More than ordinary exertion at a slow pace was impossible. There was no exertional cough, hemoptysis or nocturnal dyspnea. The patient felt that her symptoms had increased, particularly in the preceding two years, and that she was more severely handicapped than previously.

The blood pressure was 155/40-0 mm. of mercury. There were no conjunctival or mucous membrane lesions, the color of the skin was normal, no abnormality was observed in the throat and there was no enlargement of lymph nodes. The teeth were sound. The lungs were clear to auscultation. Prominent pulsations were noted in the neck vessels, and a systolic thrill could be felt at the aortic area. There was a diastolic thrill at the mitral area. A loud to-and-fro aortic murmur was heard, which obscured the second sound. There was transmission of the sound downward along the left sternal border. A grade II systolic murmur at the mitral area, a diastolic rumble, and a snapping mitral first sound were heard. As determined by percussion, the heart was enlarged to the anterior axillary line. There was no enlargement of the liver. No abnormality was noted in the abdomen except for a prominent dynamic abdominal aorta and bounding femoral pulsations.

Fluoroscopically the lung fields were normal, as was the diaphragmatic movement. The left heart border was approximately 1 cm. from the left chest wall, and this appeared to be largely the result of left ventricular hypertrophy. There was very slight displacement of barium posteriorly in the oblique views. There was a dynamic aortic pulsation. The pulmonary segment was not prominent. The electrocardiogram showed a typical pattern of decided left ventricular hypertrophy. It was concluded that the patient had rheumatic heart disease, with aortic stenosis and insufficiency and associated mitral stenosis and insufficiency. Aortic insufficiency was considered to be the predominant lesion.

Both the patient and her husband wished to have definitive treatment. A Hufnagle valve was placed[†] in the descending aorta on April 23, 1956. Operation and the postoperative course reportedly were without event, and the patient made a normal convalescence. Shortly thereafter it became apparent that the patient was pregnant, and that conception may actually have preceded the surgical intervention.

The first and second trimesters of pregnancy were uneventful, the patient remaining quite comfortable, the valve sounds remaining unchanged, and vital capacity gradually increasing. There was a modest gain in weight. However, at the beginning of the eighth month, shortly after the Thanksgiving holiday, during which the patient had overeaten somewhat, there was an increase in blood pressure to 160/0 mm. of mercury and slight edema was noted at the ankles. Reserpoid and restriction of sodium intake were prescribed.

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[*] The Hufnagle valve is a plastic sleeve containing a sliding ball valve, the whole unit being so designed that it can be clamped in place in the descending aorta below the arch. It prevents regurgitation of blood from the lower aorta, but of course does not eliminate that from the head and neck. The action of the ball valve makes a clicking sound.

Submitted July 8, 1957.

[†] By Dr. Henry Swan, after studies by Dr. Gilbert Blount in consultation.

Early on the morning of admittance to the hospital, December 17, 1956, the patient awakened acutely dyspneic and was aware of a decided change in the clicking sound of the valve. She was therefore put in hospital for further observation and treatment. The systolic blood pressure was then generally in the range of 180 mm. of mercury and the third phase remained at around 40 or 50 mm., with the fourth phase at zero. Digitalization was carried out, and with complete bed rest the patient seemed to respond satisfactorily. Most observers agreed that there was some change in the sound of the valve, which instead of having a clear-cut clicking sound, had a slight scraping sound before each click.

Upon vaginal examination the cervix was observed to be soft and effaced and slightly dilated. It was, therefore, decided to induce premature labor by rupturing the membranes. This was carried out, and an uneventful four-hour labor ensued, with normal delivery of a healthy child. The patient did extremely well immediately following delivery, but approximately 22 hours postpartum, she suddenly had a convulsive episode, became quite unmanageable and thrashed about on the bed, necessitating restraint. The blood pressure at the time was 300 mm. systolic. No diastolic reading was obtainable. The physician, thinking the valve might have stuck, rolled the patient on her side and pounded her back. More reserpine was given intramuscularly, and sodium amytal and magnesium sulfate also were administered to control the acute agitation. By the next day the patient was quite rational and oriented, but flaccid hemiplegia on the left was noted. No abnormalities were observed in the spinal fluid. An electroencephalogram was interpreted as showing spasm in the right temporal region. The hemiplegia cleared almost completely in the following week and the patient was discharged home.

It was the opinion of a neurosurgical consultant that cerebral-angiospasm was the most likely cause of the postpartum episode. Pre-eclamptic toxemia had been considered, but the absence of albuminuria or retinal changes was against this possibility. After conversation by phone with Dr. Hufnagle (designer of the valve) the physician attending the patient suggested the possibility of retrograde thrombosis from the valve with small cerebral embolization. No completely adequate explanation of the patient's postoperative complication has been evolved. At the time of this report, some six months after the episode after parturition, the patient was doing well. There was almost no residual hemiplegia, and the blood pressure was within the normal preoperative range at 140/0 mm. of mercury. The valve sound was normal.

SUMMARY

A woman in whom an artificial valve had been placed because of aortic insufficiency, subsequently had successful completion of pregnancy. Despite an unexplained postpartum complication the patient made satisfactory recovery.

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Osteochondrodystrophy (Morquio-Brailsford Type)

Occurrence in Three Siblings

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JAMES J. McCORT, M.D., San Jose

In 1929 Morquio[12] reported upon a family of five siblings, four of whom had the following abnormalities: The sternum "standing out to a point," relatively long limbs, genu valga, pes planus, deformity of the vertebral column, muscle weakness and atrophy, and peculiar gait resembling the walk of a duck. Radiographically there was a disturbance of osteogenesis of the epiphyses of all the bones. The children were of normal intelligence and normal pubertal development.

Three members of a family who had similar abnormalities are reported upon herein. These patients are of special interest first because they were of Japanese ancestry, which was not so in any previously reported cases, and secondly because two of the patients are twins, of which only one previous instance is known.[8]

The prognosis is generally considered poor but in cases where follow-up observations have been reported[8,13] this gloomy outlook has lacked support. Hirsch[8] from his observations of two families suggested the existence of a florid stage followed by a healing stage. One of the patients described in the present report (Case 1) seemed to have had a remission, but the period of observation thus far is not sufficiently long to refute the belief that the disease is progressive with death to be expected at an early age (14).

REPORTS OF CASES

CASE 1. Patient A, a 14-year-old boy of Japanese parentage was first observed at home in December 1954. He had fallen out of his wheelchair and complained of pain in both knees. Roentgenographic examination of the legs showed greenstick fractures of both distal femora and both legs were put in long casts for a period of several months. At the end of this time firm bony union was found to have taken place. After the casts were removed, function of the legs slowly returned. In about six months he was able to discard cane and crutches and then was able to walk with a waddling gait.

From the medical history it was learned that the child was considered to be well by his parents until the age of seven when it was noted that he was of shorter stature than children of his age. At the age of ten years the patient was treated by a physician because of complaint of pain in the hips. By the age of 12 he was confined completely to a wheelchair

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From the Department of Medicine and Radiology, Santa Clara County Hospital, San Jose.

Submitted March 29, 1957.

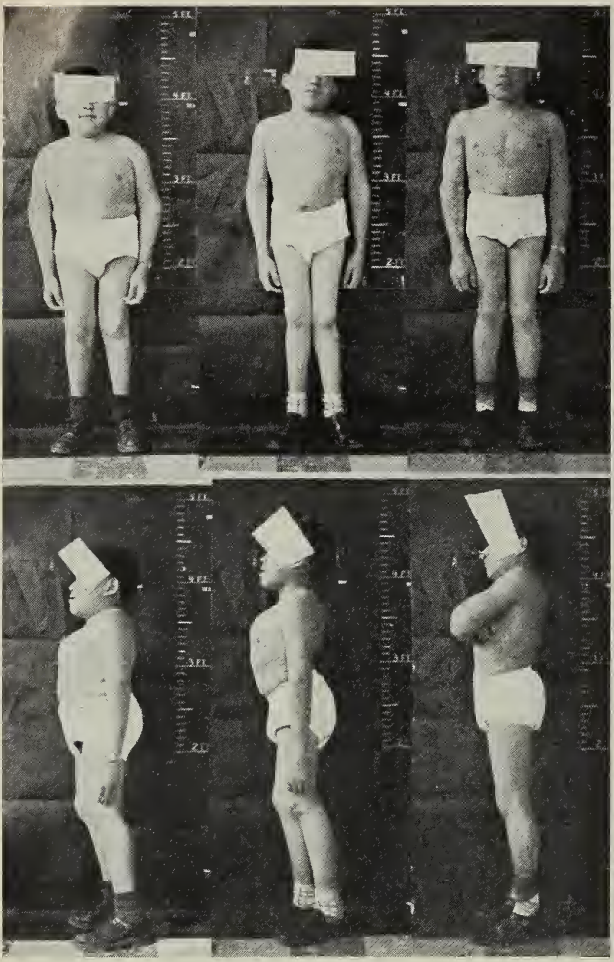

Figure 1.—Full face and profile views of three brothers, Patients A, B and C. They were shorter than Japanese boys of the same age. They all had short neck, a high, horizontal sternum and mild kyphosis. The arms reached almost to the knees. The lower extremities showed a coxa vara and genu valva deformity.

because of increasing pain in the hips and of severe weakness of both legs.

There were six siblings. Three sisters were married and childless. Two of three brothers, one of them a twin of the patient, were short in stature (Figure 1). The other brother, both the parents, and the three sisters were of normal stature. No similar skeletal abnormalities were known in either branch of the family. It was not possible to ascertain whether the twins were uniovular or binovular. They were not identical in appearance.

The patient was intelligent and cheerful. He was a high school freshman, and had a good scholastic standing. On physical examination some flattening of the bridge of the nose was noted but the skull otherwise appeared normal. The neck was extraordinarily short and the head seemed to rest upon the shoulders. The sternum stood out almost horizontally, giving the chest a barrel-shaped appearance. Kyphosis was present but not pronounced. The dorsal and lumbar spine were short and the lower ribs and the iliac crest were close together, and as there was also a disproportion between the limbs and the trunk, the fingertips reached to the knees. The patient walked with a decided "duck-waddling" gait. Despite pain and disability he was, at the time of this report, able to walk unassisted.

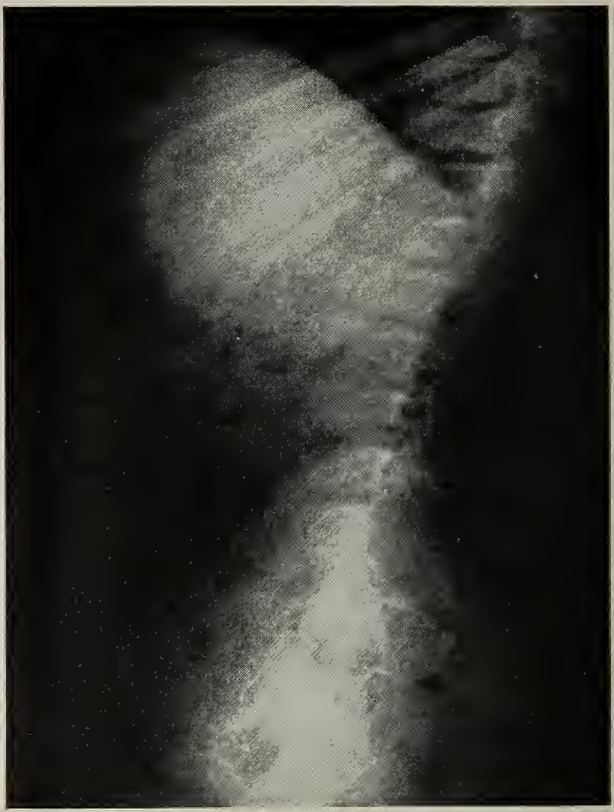

Figure 2 (Patient A).—The lateral roentgenographic view of the dorsal and lumbar spine shows a very pronounced flattening and elongation of the vertebral bodies. The superior and inferior margins of these bodies are irregular and there is a slight narrowing of the joint space. The entire spine shows a moderate degree of kyphosis.

X-ray examination of the dorsal and lumbar spine showed the vertebral bodies to be flattened and the anterior margins slightly irregular (Figure 2). The intervertebral spaces were also slightly narrowed. In the pelvis and hips, defective development of the epiphyses of femoral heads and the iliac crest were noted (Figure 3). These epiphyses were frayed and irregular, resulting in flattening of the femoral heads with a shortened femoral neck and bilateral coxa vara deformity. The wrists and ankles were somewhat demineralized and a coarse trabecular pattern and irregular metaphyses were noted.

Case 2. Patient B, 14 years of age, a twin brother —apparently not identical—of the patient in Case 1 —had a short neck, horizontal sternum and kyphosis. He was knock-kneed. The changes were less pronounced than in Patient A. He was slightly taller than his twin (Figure 1) although definitely below normal stature.

Radiographically the epiphyseal disturbances were slightly less than in Patient A (Figures 4 and 5). More pronounced degenerative changes at the margins of the acetabula were present, in addition to partial subluxation of both hips.

CASE 3. Patient C, 19-year-old older brother of Patients A and B, had a short neck, very slight kyphosis of the dorsal spine, a high, prominent and almost horizontal sternum. Like his brothers he walked with a waddling gait. He was a college sophomore of excellent scholastic standing.

Radiographic examination showed elongated, frayed vertebral borders with irregular margins. There was decided irregularity of the epiphyses of both hips as well as the epiphyses of the acetabula (Figure 5). The necks of the femora were short. A coxa vara deformity and a partial subluxation of both hips were observed.

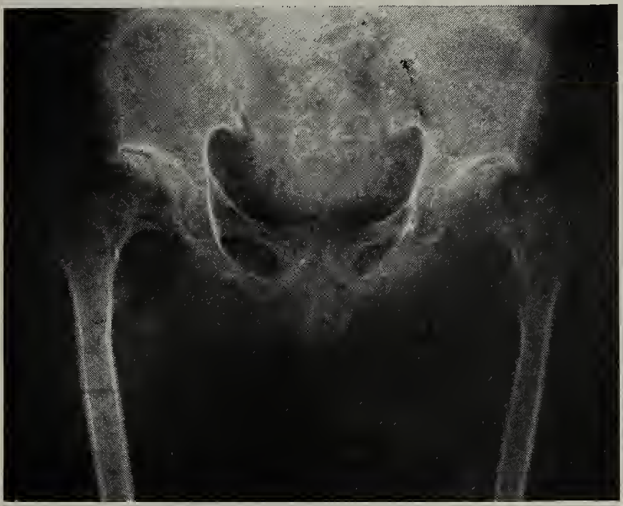

Figure 3 (Patient A).—The pelvis and hips show decided irregularity and retardation of development of the epiphyses of the head of the femora and the crest of the ilium. There is a coxa vara deformity with shortening of the femoral necks. Secondary degenerative changes are present at the margins of the acetabula.

DIFFERENTIAL DIAGNOSIS

The fundamental skeletal disturbance in these three patients was one of defective epiphyseal development. The diaphysis and metaphyses, although small, were not abnormal in appearance. Interference with epiphyseal development leading to dwarfism may be considered under three major headings: Endocrine, metabolic and developmental.

Endocrinologic disturbance of epiphyseal development during infancy and childhood is due to hypopituitarism or hypothyroidism. In hypopituitarism, the epiphyses are small, grow slowly and fuse very late in life. In hypothyroidism, the epiphyses are delayed in appearance, are small and frequently fragmented, with irregular margins. The growth and development of the epiphysis is delayed chronologically.

No endocrinologic deficiency was found in the three patients dealt with herein.

Rickets is a common example of underdevelopment of the skeleton resulting from epiphyseal disturbance of metabolic type. In childhood it may be due to a lack of sufficient vitamin D intake, an insufficient amount of calcium in the diet, a so-called resistance to vitamin D or chronic diarrheal states.

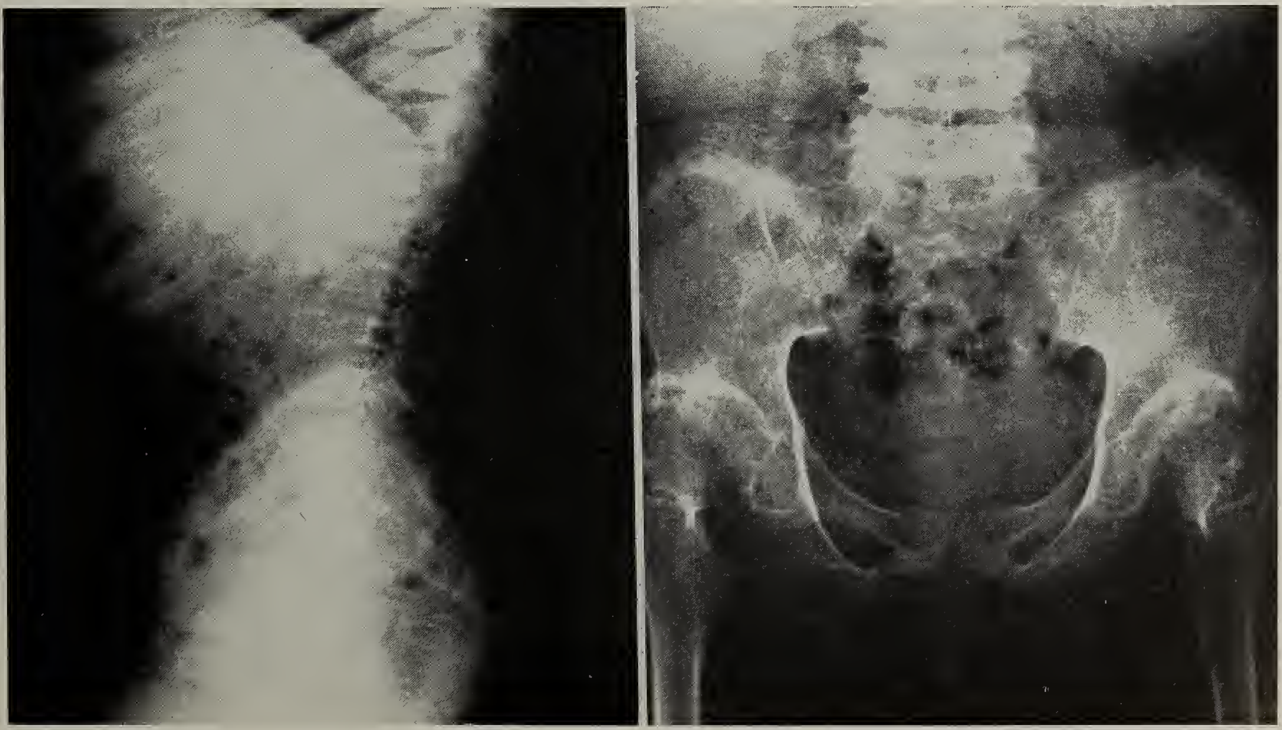

Figure 4 (Patient B).—The roentgenographic changes in the spine, pelvis and long bones are similar to those noted in Patient A, but they are slightly less pronounced. There are somewhat more degenerative changes at the margins of the acetabula. A partial subluxation in both hips is present. The tubular bones are thin and slightly demineralized (atrophy of disuse?). They are not otherwise abnormal.

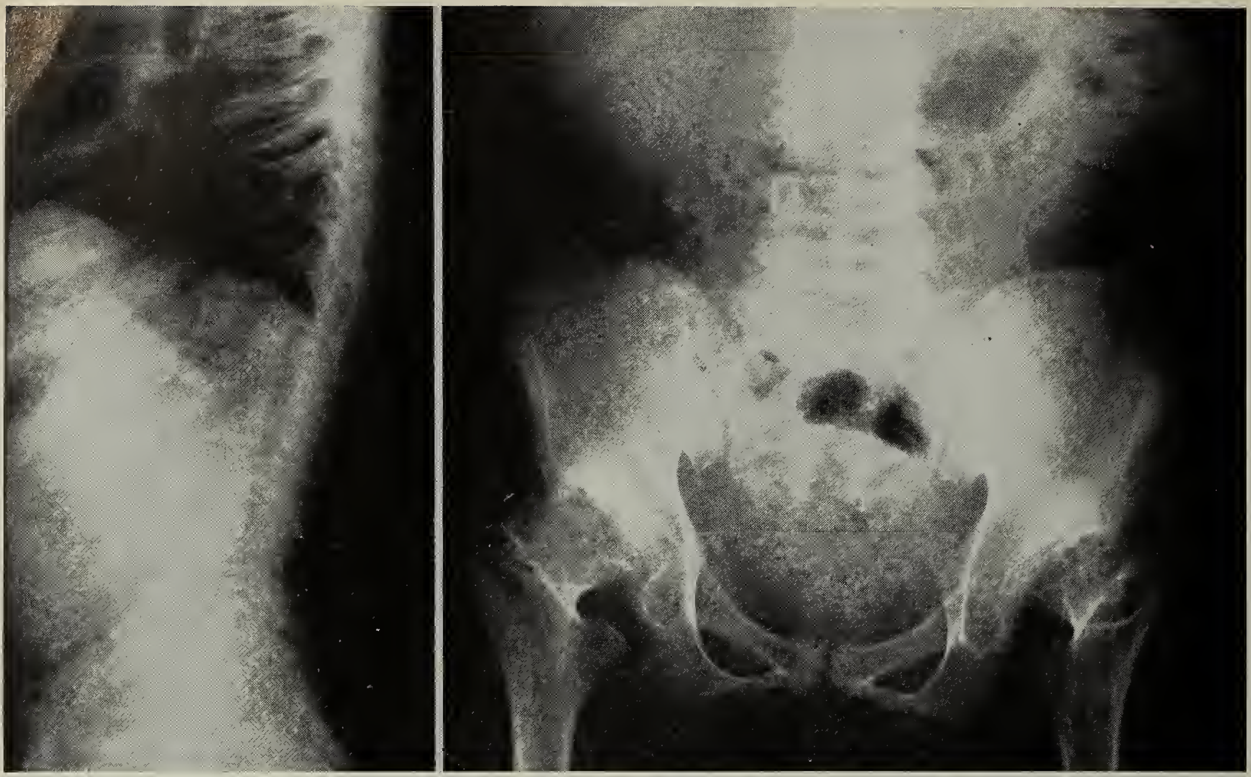

Figure 5 (Patient C).—Elongated, frayed vertebral borders with regular margins. There is marked irregularity of the epiphyses of both hips and of the epiphyses of the acetabula. The necks of the femora are short. There is a coxa vara deformity, and a partial subluxation of both hips. Secondary degenerative changes are also present.

It may also result from chronic nephritis with a loss of base, including calcium in the urine (renal rickets). In rickets the diaphysis, metaphysis and epiphysis are underdeveloped and demineralized. There is fraying and flattening of the epiphyses and the metaphyses.

No metabolic factor could be demonstrated in the three patients presented herein.

Congenital disorders of epiphyseal development can result in dwarfism of several types. Considered as developmental disorders are: Multiple epiphyseal dysplasia;[6,11] osteochondrodystrophy of the Morquio[12]-Brailsford[2] type; osteochondrodystrophy of the Hunter[9]-Hurler[10] type (gargoylism); achondroplasia, or congenital cartilaginous dysplasia;[4] and chondro-dystrophia calcificans congenita, or stippled epiphyses.[6]

Multiple epiphyseal dysplasia was described as an entity by Fairbanks[6] in 1949. Jackson, Hanelin and Albright[11] considered multiple epiphyseal dysplasia to be a disease affecting the cartilaginous epiphyses of the long bones. They reported good general development and little disability although the patients were short in stature. The spine was said to be rarely involved but in two of the six cases they reported this feature was present.

Osteochondrodystrophy of the Morquio-Brailsford type is characterized clinically by dwarfism, short neck, flat nose, horizontal sternum, kyphosis, knobby joints and genu valgum.[5] Roentgenographic features are generalized demineralization, flattening of the vertebral bodies, retarded development and fraying of the epiphyses of the long bones. The capital femoral epiphysis is flattened and there may be a coxa vara deformity of the hips.[1,7,12,14] We believe the three patients herein described fit best in this category.

Hurler-Hunter's disease, or gargoylism, has striking clinical features. Characteristically the patients have coarse features, deformity of the skull, clouding of the cornea and retarded mental development. Radiographically they also show deformity of the vertebral bodies with some elongation and irregularity at the superior and inferior margins. Further, the modeling of the distal ends of the long bones is not fully developed and these bones have a pinched-off appearance. The metacarpal bones are flat, irregular and expanded; the ribs are broad and flat; the skull is elongated with a large sella turcica and there is hepatomegaly.[3]

Achondroplasia or congenital cartilaginous dysplasia causes dwarfism of the type in which the trunk is of normal length and the extremities short. Roentgenographically the bones are broad and flat with wide flaring metaphyses. The spine is generally not involved and there is no scoliosis or kyphosis.[4]

Punctate epiphyseal dysplasia is a rare disease characterized by an irregular frayed appearance of the epiphysis as well as irregular punctate calcification in the epiphysis. The bones are short and there are usually multiple deformities.[6]

DISCUSSION

The skeletal lesions of the three patients herein reported upon were those of osteochondrodystrophy of Morquio-Brailsford type (the term proposed by Fairbank[7]). The association of thin demineralized bones with muscular weakness is difficult to explain. All motion in these patients was painful and difficult and their habits were therefore sedentary. The demineralization and weakness—a prominent feature in the present cases and in others reported in the literature—therefore may be due to a lack of stimulus to growth caused by disuse.

In studying the cases reported over the 27 years since the initial report of Morquio, one is struck by the fact that there are very few "typical" cases.[16] In any series there will be found so-called "formes frustes."[15] Thus, in the case reported by Brailsford there was no mention of a barrel chest; bilateral inguinal hernias were present, and there was a normal gait.

At present, in the clinic in which we practice, we have records of a family of 38 persons, 13 of whom are known to have multiple epiphyseal dysplasia, and the criteria which Jackson, Hanelin and Albright[11] set forth are satisfied radiographically. In making a comparison between the family with multiple epiphyseal dysplasia and the one under discussion in this paper, a number of similarities are apparent. Spinal involvement was noted in three of the 13 patients known to have metaphyseal dysplasia. All the patients were short-statured and as they grew older serious and crippling deformities developed. Radiographically, the skeletal changes in the two diseases appear to differ in degree of severity and extent. A common denominator is a defective epiphyseal development which is inherited and is familial, as indicated by the higher incidence in siblings. In multiple epiphyseal dysplasia a simple dominant genetic inheritance, with high penetration, is postulated,[11] while Morquio's disease is recessively inherited.[15]

A study of the cases herein reported and a review of reports of other cases leads us to believe that Morquio-Brailsford disease and multiple epiphyseal dysplasia show overlapping of clinical and radiological manifestations. It is possible that they represent variations in the same entity—that is, a disturbance of epiphyseal development that is inherited and familial.

SUMMARY

Reports on three patients with osteochondrodystrophy of the Morquio-Brailsford type are presented. They were members of a Japanese family in which both parents were normal and there were four normal siblings. Two of the patients were twins, apparently binovular.

Clinically these patients were dwarfs, having short neck, flat nose, dorsal kyphosis, horizontal sternum, coxa vara, genu valga and pes planus. They walked with a duck waddle. Intelligence was unimpaired. Muscular weakness was present.

Radiographically there was widespread disturbance of normal epiphyseal development characterized by defective growth and fusion. A generalized bone demineralization was present and the vertebral bodies were flattened. Secondarily there were subluxations in the weight-bearing joints, accompanied by degenerative osteoarthrosis.

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Adrenal Cyst

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ADRENAL CYSTS are rare lesions. The correct diagnosis is seldom made before operation or postmortem examination. In 1951, Parker[2] found reports of 19 cases in the American literature. Ellis, Dawe and Clagett,[1] in 1952 reported 12 cases in which the lesion was removed at operation. Wahle,[3] reviewing records of 13,996 autopsies, noted that adrenal cysts had been observed in nine cases.

Since the adrenal glands do not contain acini with a central lumen, it is unlikely that retention or glandular cysts occur. Most of the adrenal cysts are either serous cysts or pseudocysts, the result of either hemorrhage and necrosis in a benign or malignant tumor or the cystic resolution of a hematoma without neoplasm.

Gastrointestinal symptoms occasionally result from pressure of the cyst on the stomach or bowel. There have been no endocrine disturbances reported. The soft tissue mass above the kidney has been seen on x-ray examination. Calcification is often present in the walls of the cyst. In most of the reported cases, pyelographic studies showed downward displacement of the kidney. In the differential diagnosis of upper abdominal and retroperitoneal masses, adrenal cyst must be considered.

REPORT OF A CASE

A 70-year-old white man was admitted to Cedars of Lebanon Hospital with the complaint of intermittent pain in the right lower quadrant of the abdomen and occasional radiation of pain to the right upper quadrant, the right flank and the suprapubic region. The pain, varying in degree, had been present for about one month. There were no other symptoms.

Suprapubic prostatectomy five months previously had alleviated urinary symptoms and there were no clinical complications.

The temperature was 98.8° F. and the blood pressure 176/100 mm. of mercury. A firm, round, slightly tender movable mass about 10 cm. in diameter was palpated in the right lower quadrant of the abdomen.

There was a trace of albumin in the urine, and 40 to 50 erythrocytes per high power field.

Radiologic examinations included a barium colon enema, an intravenous urogram and an upper gastrointestinal tract series. A mass approximately 10x15 cm. with irregular areas of calcification in its margins was seen in the left upper quadrant of the abdomen (Figure 1). It did not displace the stomach or the colon. The left kidney seemed a little lower than normal. A tentative diagnosis of pancreatic cyst was made.

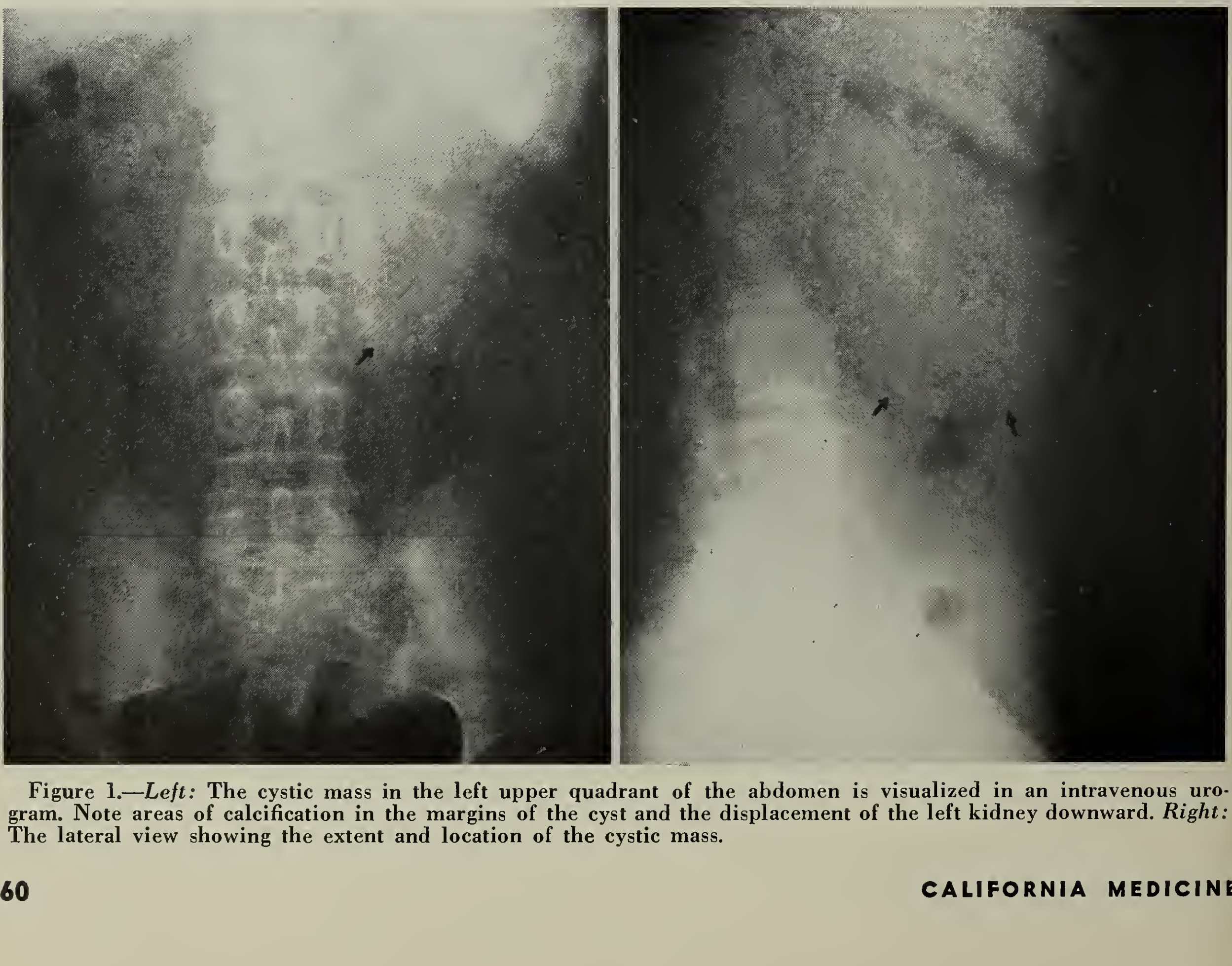

Figure 1.—*Left:* The cystic mass in the left upper quadrant of the abdomen is visualized in an intravenous urogram. Note areas of calcification in the margins of the cyst and the displacement of the left kidney downward. *Right:* The lateral view showing the extent and location of the cystic mass.

From the Department of Surgery, Cedars of Lebanon Hospital, and Department of Surgery, University of Southern California School of Medicine, Los Angeles.

Submitted October 21, 1957.

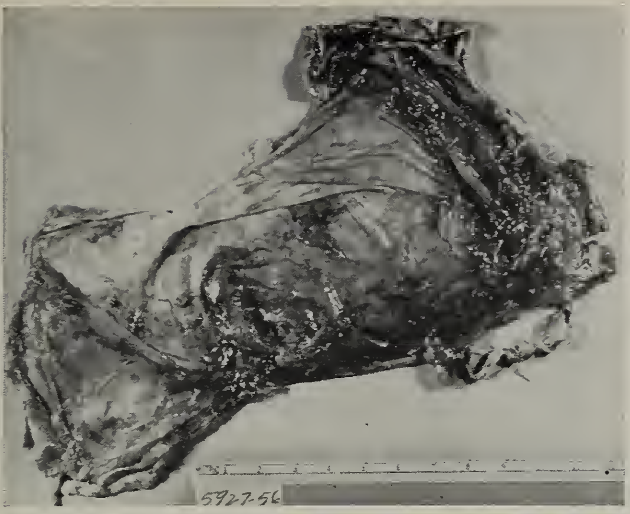

Figure 2.—The specimen, spread out after the cyst was split. The left adrenal gland is in the central portion.

At operation a left upper quadrant, transverse abdominal incision was made. A retroperitoneal cystic mass separate from the left kidney inferiorly and from the pancreas was observed. After the overlying peritoneum was incised, the cyst was seen to be oval, yellow and approximately 12x20 cm. To aid identification and for better exposure, the contents of the cyst, 300 cc. of brownish thin fluid, were aspirated. The left adrenal gland was flattened against the wall of the cyst at the base. The cystic mass, including the left adrenal gland, was removed after the adrenal vessels were ligated. The right adrenal gland was palpated and no abnormalities were noted.

Through another transverse incision in the right lower quadrant of the abdomen, a round cystic hematoma, approximately 10 cm. in diameter, was found to bulge into the peritoneal cavity from the retroperitoneal space. This mass, thought to be a complication of the previous prostatectomy, was removed.

There was no pronounced change in blood pressure or pulse rate during the surgical procedure. The patient remained in good condition until the second postoperative day, when singultus, gastric dilatation and emesis occurred. Approximately 60 hours after operation he was in profound shock. The blood pressure was maintained with difficulty by use of levarterenol bitartrate solution and other supportive measures. Cortisone was administered intravenously and intramuscularly and the condition of the patient improved progressively. On the fourth postoperative day, serum sodium was 122 mEq. per liter and serum chlorides 83 mEq. per liter. These deficiencies were rapidly corrected by giving 5 per cent sodium chloride solution.

Gradual improvement continued. After five days intramuscular injections of cortisone were discontinued and Meticorten® was given by mouth. The patient was discharged on the twelfth postoperative day.

Weakness, postural hypotension and singultus developed and serum sodium and chloride contents decreased. Meticorten was discontinued and cortisone, desoxycorticosterone and salt were given and the syndrome abated. Later urinary 17-ketosteroid response with corticotropin (ACTH) showed adrenal function of the remaining gland. All medications were gradually withdrawn. When last seen, six months after operation, the patient had no complaints and had resumed his normal daily routine.

The pathologist reported the specimen was composed of a fibrotic sac which measured 18x9.5 cm., with calcific plaques and with the adrenal gland located in the central portion (Figure 2). Nothing of significance was noted on study of the fluid removed from the cyst.

COMMENT

In this case there were no symptoms and no physical features referable to the large cyst of the left adrenal gland. The lesion was noted while the patient was being studied for another complaint.

Of particular significance in the present case was the postoperative complication of shock due to adrenal insufficiency and the response to adrenal substitution therapy. It must be concluded that the remaining adrenal gland was unable to maintain the various functions following the stress of the operation.

SUMMARY

A case of a large adrenal cyst is reported. The postoperative course was complicated by profound shock, which responded to cortisone.

9735 Wilshire Boulevard, Beverly Hills.

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California MEDICINE

For information on preparation of manuscript, see advertising page 2

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EDITORIAL

Fluoridation of Drinking Water

Within the past decade the American public has been given repeated assurances that the presence of fluorine in drinking water, in the ratio of one part per million, has a deterrent effect on the development of dental caries.

Dental and other medical evidence has been spread wide to bolster this assurance, and professional societies throughout the country have repeatedly gone on record as favoring the introduction of the optimum quantity of fluorine in water supplies to give this method of protection to children for the preservation of their teeth.

And yet, as recently as the December Clinical Session of the American Medical Association in Philadelphia, the question of the advisability of this procedure has again been raised.

Historically the presence of fluorine in drinking water is determined to be the reason why dental caries in children in one area of Texas is practically nonexistent. Since this observation was made, a number of control studies have been carried out by the U. S. Public Health Service and various state public health agencies to determine the incidence of dental caries in children in population groups with a supply of drinking water containing minimal amounts of fluoride and in those with fluoride added to the drinking water in a concentration of one part per million. These studies established the fact that fluorine in this concentration in drinking water was an effective method of reducing dental caries in children up to ten years of age.

The American Medical Association examined the findings of the dentists and the U. S. Public Health Service and agreed with their conclusions. While there were some areas of disagreement on details, the basic findings of the dental scientists were confirmed throughout.

While these researches were going on, opponents of fluoridation made their appearance. Originally, these opponents appeared to be persons who rely on faith or prayer for the healing of their bodily ailments. More recently they have been joined by some physicians and—odd bedfellows—some chiropractors. In addition, some freeloading crackpots joined the opposition party, sometimes with comical consequences.

One community after another across the country has come to grips with the problem of whether or not to fluoridate its drinking water. Local elections have been held in many places, mainly with affirmative answers but often with the reverse.

When the local elections are scheduled, public debates ensue and the opposition is brought out into the open. It is in these cases that the strange assortment of political get-togethers is disclosed. One chiropractor has been traced through several California communities, where he has organized and actively led the opposition to fluoridation. In another area, the chief opponent, who claimed to be a biochemist with a long record of outstanding research, turned out to be a former mental patient who had gone over the wall at an Illinois state institution and who was classified by psychiatrists there as harmless.

Physicians who oppose fluoridation of water generally do so because they are opposed to the principle of compulsory mass medication which must be accepted whether the citizen wishes it or not, because they are not convinced that long-continued use of fluoride in drinking water is proven harmless or because they consider the method ineffective in preventing dental caries. Chlorination of drinking water supplies is accepted by them as a means of preventing infectious diseases in the individual or the community but they consider dental caries an individual and not a public health problem.

Fortunately for the good name of the American medical profession and the health of the people, the A.M.A. session in Philadelphia had access to studies which had been carried on by scientific bodies within the Association. The Council on Drugs and the Council on Foods and Nutrition in restudying this whole matter referred to them by the House of Delegates and the Board of Trustees following the meeting of the House of Delegates in Seattle in December, 1956, concluded that (1) fluoridation of public water supplies is a safe and practical method of reducing the incidence of dental caries during childhood and (2) no evidence had been found since their previous report in 1951 to indicate harmful effects to the general health from long-continued use of water containing approximately one part per million of fluorine.

When the debate before an A.M.A. reference committee and on the floor of the House of Delegates was concluded, the House went on record once more as approving the fluoridation of drinking water supplies in one-per-million concentration as a safe and practical method of reducing the incidence of dental caries during childhood.

Final action of the House of Delegates was to approve a report of these two councils which had been requested a year earlier. This report found, (1) that fluoridation at the recommended level has been established as a means of reducing dental caries in children and, possibly, in adults up to age 44; (2) that in warmer climates where ingestion of water may be greater than the average, a lower concentration of fluorine is advisable; (3) that the mottling of tooth enamel in some persons is minimal and is more than offset by the caries-inhibiting effect of the fluoride; and (4) that introduction of fluorine in water supplies as a prophylactic measure for reducing tooth decay is applicable in areas where less than one part per million is present in water supplies.

This decision should tend to reduce the breadth and effectiveness of the opposition for some time to come. At least, it should answer in considerable part the pseudo-scientific arguments which have been raised against this procedure. The political arguments, against *compulsory* introduction of drugs into community water supplies, will doubtless require political answers which go beyond the scope of the practice of medicine. This is a problem which must be settled by the citizens of each community.

Diagnosis of Hemorrhagic Diseases

RECENTLY THERE HAVE BEEN many advances in knowledge of the mechanism of blood coagulation. The abundance of new clotting factors, the confusing nomenclature associated with them and the complexity of tests required for their quantitative estimation, have raised many new problems for practicing physicians and laboratory directors.

One result of this new knowledge is the certainty that routine preoperative tests of bleeding and clotting time are not adequate in the detection of many types of hemorrhagic disorders. Should these tests be abandoned because they may lead the surgeon into a sense of false security? Is it not better to trust one's clinical judgment and order appropriate tests only when indicated? In such circumstances would one be legally responsible if he did no preoperative tests and the patient bled following operation? Should all hospital laboratories be equipped to perform and interpret the wide variety of complex tests required for a complete evaluation of the bleeding and clotting mechanism? Should every patient with hemorrhagic symptoms and every patient undergoing operation of any type be subjected to this vast group of time-consuming and expensive tests? Is there any reason why a patient having a tonsillectomy should have these tests before operation, while one undergoing a gastric resection need not have them?

An honest and sensible approach to these problems is contained in the paper entitled "Diagnosis of Hemorrhagic Diseases" by L. W. Diggs, M.D., Professor of Medicine and Director of Medical Laboratories of the University of Tennessee. The first installment of this article appeared in the December issue of CALIFORNIA MEDICINE and the second is published herewith. As Dr. Diggs so clearly demonstrates, there is no simple answer to these problems. Yet this is no excuse for evading the issue. Of course bleeding and clotting tests should not be done simply as routine. One would *not* be legally or morally responsible for hemorrhagic complications *if* he had done a proper history and physical examination and found no evidence of a bleeding tendency. If there is such evidence, then certainly tests to determine the bleeding and clotting times should be done. However, one cannot stop there. All the tests required to discover the cause should be done, and done expertly.

By his thoughtful attention to the varying clinical manifestations of the hemorrhagic disorders and his de-emphasis of the specific details of laboratory tests and clotting factors, Dr. Diggs has done much to bring this heretofore esoteric subject down to earth. Every physician should benefit by reading this excellent article.

PAUL M. AGGELER, M.D.

California MEDICAL ASSOCIATION

NOTICES & REPORTS

Council Meeting Minutes

Tentative Draft: Minutes of the 428th Meeting of the Council, San Francisco, Mark Hopkins Hotel, November 10, 1957.

The meeting was called to order by Chairman Lum in the Argonaut Room of the Mark Hopkins Hotel, San Francisco, on Sunday, November 10, 1957, at 9:45 a.m.

Roll Call:

Present were President MacDonald, President-Elect West, Speaker Doyle, Vice-Speaker O'Neill, Secretary Daniels and Councilors MacLaggan, Wheeler, Foster, Wadsworth, Pearman, Harrington, Sherman, Lum, Bostick, Teall, Kirchner, Reynolds, Varden, Heron, Rosenow and Hoyt. Absent for cause, Councilor McPharlin and Editor Wilbur.

A quorum present and acting.

Present by invitation during all or part of the meeting were Messrs. Hunton, Thomas, Clancy and Gillette of C.M.A. staff; Messrs. Howard Hassard and Robert Huber of legal counsel; Messrs. Read and Salisbury of the Public Health League of California; county society executives Scheuber of Alameda-Contra Costa, Geisert of Kern, Pettis of Los Angeles, Field of Los Angeles, Marvin of Riverside, Foster of Sacramento, Donmyer of San Bernardino, Nute of San Diego, Neick of San Francisco, Thompson of San Joaquin, Wood of San Mateo and Donovan of Santa Clara; Doctors F. J. Cox, D. O. Kilroy, Donald M. Campbell, J. R. Upton and Andrew M. Henderson, Jr.; Doctors A. E. Larsen and William Gardenier and Messrs. Anthon Robertson, Richard Lyon, K. L. Hamman and Wilson Walberg of California Physicians' Service; Doctors Jay Ward Smith, Malcolm Watts and Walter Macpherson, representing the Stanford, University of California and College of Medical Evangelists medical schools, respectively; Doctor Marshall Porter, State Director of Mental Hygiene; Doctor Fred Kriete of the State Department of Public Health; Mr. George Wyman, State Director of Social Welfare; Doctor Henry Gibbons III of San Francisco, and Messrs. Hamilton Wright and William Thompson of Robert Heller and Associates of Cleveland.

The chairman introduced Doctor Werner Hoyt of Mount Shasta, who was appointed as a Councilor-at-Large to succeed the late Doctor Hollis L. Carey.

A stenotype reporter was present.

1. *Minutes for Approval:*

(a) On motion duly made and seconded, minutes of the 427th meeting of the Council, held September 14, 1957, were approved.

(b) On motion duly made and seconded, minutes of the 266th meeting of the Executive Committee, held October 16, 1957, were approved.

2. *Membership:*

(a) A report of membership as of November 8, 1957, was submitted and ordered filed.

(b) On motion duly made and seconded, 25 delinquent members whose dues have now been paid were voted reinstatement.

(c) On motion duly made and seconded in each instance, four applicants were elected to Associate membership. These were: Carrie E. Chapman, Alameda-Contra Costa County; Leroy K. Mills, Sacramento County, and Robert S. Goldsmith, and Plato J. Grivas, San Francisco County.

(d) On motion duly made and seconded, Doctor

FRANK A. MacDONALD, M.D.	President
FRANCIS E. WEST, M.D.	President-Elect
JAMES C. DOYLE, M.D.	Speaker
J. NORMAN O'NEILL, M.D.	Vice-Speaker
DONALD D. LUM, M.D.	Council Chairman
ALBERT C. DANIELS, M.D.	Secretary-Treasurer
IVAN C. HERON, M.D.	Chairman, Executive Committee
DWIGHT L. WILBUR, M.D.	Editor
JOHN HUNTON	Executive Secretary

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Eugen Reinartz of Monterey County was elected to Retired Membership.

(e) On motion duly made and seconded in each instance, reductions of dues were granted to two applicants because of illness or postgraduate study.

3. *Financial:*

(a) A report of bank balances and related items as of November 8, 1957, was submitted and ordered filed.

(b) A report of income and expenditures for October and for the four months ended October 31, 1957, was submitted and ordered filed.

4. *Building Committee:*

Councilor Heron reported for the Building Committee appointed by the Executive Committee to consider the purchase of a San Francisco building at 693 Sutter St., for use as Association headquarters. Chairman of the committee was Dwight L. Wilbur, members Ivan C. Heron, Edward C. Rosenow, Jr., Warren Bostick, Frank A. MacDonald and Francis E. West.

The committee's report was distributed to the Council, together with exhibits prepared by the executive secretary and by experts in the real estate, banking and construction fields. Doctor Heron answered several questions raised by Councilors who had examined the property.

On motion duly made and seconded, it was voted to purchase this property, for delivery on or about July 1, 1959, through the Trustees of the California Medical Association or such other corporate entity as legal counsel might recommend.

5. *California Physicians' Service:*

Councilor Reynolds, newly elected chairman of the Board of Trustees of California Physicians' Service, introduced to the Council Mr. Anthon Robertson, newly elected president of C.P.S.

Doctor Reynolds explained the steps that had been taken in the reorganization of C.P.S. and Mr. Robertson expressed his desire to work closely with the C.M.A. Council and House of Delegates.

6. *State Department of Public Health:*

Doctor Fred Kriete of the State Department of Public Health, reported on the status of poliomyelitis and influenza cases in California, pointing out that influenza deaths to date outnumbered those from poliomyelitis three times.

Doctor Kriete also reported the establishment of an Alcoholic Rehabilitation division within the department, under the head of Doctor John Philp. No substantive changes in program are planned at this time.

Doctor Kriete also reported that meetings had been held with six regional committees on rabies control and that the program authorized by the 1957 Legislature was under way.

7. *Legislation:*

Mr. Hassard reported that a State Senate interim committee was seeking the Association's suggestions on the proposed establishment of a State Department of Health, which would assume the state's licensing and regulatory functions in the field of the healing arts and, through another division, continue the functions of the present Department of Public Health. He asked Council direction on the presentation to be made to this committee. On motion duly made and seconded, it was voted to reaffirm the earlier policy in favor of this type of reorganization of these state functions.

8. *Commission on Medical Services:*

Doctor Francis J. Cox discussed several programs which have been discussed by the Commission on Medical Services and several of its subcommittees.

On motion duly made and seconded, it was voted to recommend that the Relative Value Study, at a factor of $5, be applied to services provided under the Crippled Children's Program and opposition to a per diem hospital rate be reaffirmed.

On motion duly made and seconded, it was voted to place the program of Medical Care to Public Assistance Recipients under the Committee on Government-Financed Medical Care Programs.

On motion duly made and seconded, it was voted that activities in the field of vocational rehabilitation be handled by the Commission on Medical Services.

On motion duly made and seconded, it was voted to approve the revised edition of the Relative Value Study, including some additional items and other changes made to eliminate duplications and typographical errors.

9. *Structural Study of C.M.A.:*

Messrs. Hamilton Wright and William Thompson of Robert Heller and Associates, Inc., of Cleveland, Ohio, presented a progress report on their study of the structure, activities, etc. of the Association, and answered questions. A final report is to be made at a meeting of the Council scheduled to be held in San Francisco on December 14, 1957.

10. *State Department of Social Welfare:*

The chairman introduced Mr. George Wyman, Director of the State Department of Social Welfare, who expressed his desire to work in cooperation with the Association on matters of mutual concern.

11. *State Director of Mental Hygiene:*

The chairman introduced Doctor Marshall Porter, Director of the State Department of Mental Hygiene, who expressed approval of the new community mental health program and asked cooperation.

12. *Committee on Blood Banks:*

Doctor Andrew M. Henderson, Jr., chairman of the Committee on Blood Banks, presented a report on the activities of blood banks in the California system, including suggestions for uniform standards to be adopted by all blood banks claiming sponsorship by the Association. On motion duly made and seconded, it was voted to thank the chairman for this report and to consider further action following the February, 1958, meeting of the California Blood Bank System, Inc.

13. *Committee on Legislation:*

Mr. Ben Read of the Public Health League of California reported several interim committees of the State Legislature were active and that medical representation had been furnished to such committees.

Doctor Dan O. Kilroy, chairman of the Committee on Legislation, reviewed the public welfare legislation and reported on a proposal to transfer to the state the welfare programs now carried on by the counties. On motion duly made and seconded, it was voted to go on record as opposing this proposed move.

Mr. Hassard reported on two proposals now before the Congress relative to the provision of hospital care, nursing care and surgery for Social Security beneficiaries.

14. *Public Relations:*

Mr. Clancy reported that consideration was being given by the American Medical Association to publication of a tabloid form of news bulletin to reach all A.M.A. members.

15. *Governmental Medical Programs:*

On motion duly made and seconded, it was voted that the Council give a special directive to the Commission on Medical Services to study and re-evaluate the status of governmental encroachment on and intervention in the practice of medicine and to recommend policies and a program of specific action by the Association as a basis for future decisions by the Council, this study to be undertaken at once and reported back to the Council for action prior to the 1958 Annual Session.

16. *Relative Value Study:*

Discussion was held on the recommendation of the Commission on Medical Services that the Relative Value Study, at factors of $4 and $5 respectively, be applied to the current fee schedules A and B of California Physicians' Service. On motion duly made and seconded, it was voted to receive this recommendation and transmit it to California Physicians' Service for its consideration jointly with the Commission on Medical Services.

17. *Medical Review and Advisory Board:*

Discussion was held on the filling of vacancies on the Commission on Professional Welfare, the Medical Review and Advisory Board and the Council's Liaison Committee with the California State Bar caused by the resignation of Doctor Joseph F. Sadusk, Jr.

On motion duly made and seconded, it was voted to accept, with regret and with thanks for past services, Doctor Sadusk's resignation as chairman and a member of the Commission on Professional Welfare and the Medical Review and Advisory Board. In his resignation Doctor Sadusk pointed out that in his acting as liaison between the Medical Review and Advisory Board and the Council he (1) had not at any time brought before the Council any matter which had not been previously reviewed and formally approved by the Board, and (2) had not at any time acted for the Board in matters requiring implementation on which a policy decision had not been previously reached by the Board in formal vote.

On motion duly made and seconded, it was voted to appoint Doctor Carl M. Hadley as chairman of the Commission and the Board.

On motion duly made and seconded, it was voted to appoint Doctor C. J. Attwood as a member and Doctor Francis E. West as chairman of the Council's special Liaison Committee with the California State Bar.

18. *Insurance Claims Forms:*

On motion duly made and seconded, it was voted to refer to the Commission on Medical Services a proposed insurance claims form submitted by a county medical society.

19. *School Health:*

Discussion was held on proposals advanced for furnishing medical services to students in certain types of state colleges. On motion duly made and seconded, it was voted to refer this question to the Commission on Public Health and Public Agencies for review.

20. *Public Assistance Medical Care Program:*

Discussion was held on a request from the Kern County Medical Society that the fiscal agent for the public assistance medical care program handle claims from all types of persons authorized by law to treat the public assistance recipients. On motion duly made and seconded, it was voted to reaffirm an earlier decision that the fiscal agent handle claims only from physicians and surgeons, dentists and pharmacists.

21. *Resolution No. 10, 1957 House of Delegates:*

Doctor Henry Gibbons III of San Francisco discussed Resolution No. 10 from the 1957 House of

Delegates and suggested that the Association establish a department of investigation of illegal medical practices. It was agreed to take this proposal under consideration.

22. *Medical Libraries:*

Councilor Heron reported that there is some concern by physicians in the Bay Area about the possible removal of the Lane Medical Library to another location where its services would not be readily available to some of its present users. The Association contributes to this library each year in consideration of its services being widely available.

23. *State Board of Nurse Examiners:*

A request for nomination of two candidates for appointment to the Advisory Council to the Board of Nurse Examiners, to succeed the late Ewing L. Turner, was received and it was agreed to make such nominations.

24. *Committee on Government-Financed Medical Care Programs:*

On motion duly made and seconded, it was voted to add to the membership of the Committee on Government-Financed Medical Care Programs the members of the Council's special liaison committee on the public welfare program, under the chairmanship of Doctor Harrington.

25. *Public Welfare Program:*

On motion duly made and seconded, it was voted to approve a letter to county medical societies proposed by the liaison committee on the public welfare program.

26. *Athletic Injuries:*

On motion duly made and seconded, it was voted to approve a first aid chart for athletic injuries, to be distributed to school authorities by the county medical societies.

27. *Medical Ethics:*

On motion duly made and seconded, it was voted to reiterate the support of the Association for the Principles of Medical Ethics of the American Medical Association, with particular reference to consultations with other practitioners and to urge all county medical societies to review their own actions in this regard.

28. *Time and Place of Next Meeting:*

It was agreed that the next Council meeting should be held in San Francisco on Saturday, December 14, 1957, at which time the principal item of business would be the receipt and consideration of the final report and recommendations to be made by Robert Heller and Associates.

Adjournment:

There being no further business to come before it, the meeting was adjourned at 5:30 p.m.

Donald D. Lum, M.D., *Chairman*
Albert C. Daniels, M.D., *Secretary*

Executive Committee Minutes

Tentative Draft: Minutes of the 266th Meeting of the Executive Committee, San Francisco, Sir Francis Drake Hotel, October 16, 1957.

The meeting was called to order by Chairman Heron in the Yosemite Room of the Sir Francis Drake Hotel, San Francisco, on Wednesday, October 16, 1957, at 2:30 p.m.

Roll Call:

Present were President MacDonald, Council Chairman Lum, Speaker Doyle, Auditing Committee Chairman Heron, Secretary Daniels and Editor Wilbur. Absent for cause, President-Elect West.

A quorum present and acting.

Present by invitation were Messrs. Hunton, Thomas, Clancy and Gillette of C.M.A. staff and Howard Hassard, legal counsel.

1. *Membership:*

(a) On motion duly made and seconded, Doctor William M. Byers of Los Angeles County was voted Retired Membership.

(b) On motion duly made and seconded, seven applicants were voted Associate Membership. These were: Fred S. Preuss, Sacramento County; John Gardner, Sara E. Sykes, Howard E. Weatherly, Los Angeles County; Robert S. Cox, Jr., San Francisco County; Roger F. Scherb, San Joaquin County, and Loren J. O'Connor, Santa Clara County.

(c) On motion duly made and seconded, reduction of dues was voted for six applicants because of prolonged illness or postgraduate study.

2. *Building Purchase Proposal:*

Discussion was held on the proposal to purchase a San Francisco building as office headquarters. The members of the committee recessed temporarily in order to inspect the building personally.

On motion duly made and seconded, it was voted to request a 30-day option from the present owners.

On motion duly made and seconded, it was voted to appoint a committee to study all aspects of this proposal and report to the Council. Doctor Wilbur was named as chairman of the committee, he to appoint the other members.

3. *Medical Review and Advisory Board:*

Discussion was held on the resignation of the chairman of the Commission on Professional Welfare and the Medical Review and Advisory Board. On motion duly made and seconded, it was voted to accept this resignation with regret but to request the chairman to remain as chairman of another special committee named by the Council to confer with the California State Bar.

On motion duly made and seconded, it was voted to accede to the request of some insurance carriers for the return of records loaned by them to the Medical Review and Advisory Board.

4. *State Department of Education:*

Doctor MacDonald reported on a request received by him for a nominee for appointment to the Advisory Committee to the State Department of Education on Public School Health. He nominated Doctor Ben J. Siebenthal of Sacramento, a pediatrician reportedly interested in this activity.

5. *Blood Banking:*

Mr. Hunton reported that financial reports received from Central California Blood Bank showed that for the past three months the bank has operated at a higher volume than ever before and had accumulated a surplus from these operations.

6. *Audio-Digest Foundation:*

On motion duly made and seconded, it was voted to approve a move whereby the sales of educational tapes and of recording machines by Audio-Digest Foundation might be put into two separate corporations.

7. *State Department of Mental Hygiene:*

Doctor MacDonald reported that Doctor Marshall E. Porter, new director of the State Department of Mental Hygiene, had indicated his desire to cooperate with the Association and it was agreed that he be invited to attend the next Council meeting.

8. *Committee on Other Professions:*

On motion duly made and seconded, it was voted to add two members to the Committee on Other Professions, so that subcommittees might be named to deal with other groups.

9. *C.M.A. Structural Survey:*

Messrs. Hamilton Wright and William Thompson of Robert Heller and Associates, who are currently surveying all C.M.A. activities and structure, were introduced to the committee and made a brief report on the scope of their anticipated inquiries.

10. *Council Meetings:*

On motion duly made and seconded, it was voted to employ stenotype reporters to attend Council meetings and record and transcribe important portions of Council discussions.

Adjournment:

There being no further business to come before it, the meeting was adjourned at 6:45 p.m.

Ivan C. Heron, M.D., *Chairman*
Albert C. Daniels, M.D., *Secretary*

PROPOSED CONSTITUTIONAL AMENDMENT

(Second Publication)

Under the terms of the C.M.A. Constitution, amendments to the Constitution must lie on the table until "the next session, other than a special session, of the House of Delegates." During this interim the proposed Constitutional amendment must be published "at least twice in separate issues of the official journal of the Association."

The proposed Constitutional amendment below was introduced at the 1957 session of the House of Delegates and will be considered and acted upon at the 1958 session of the House of Delegates. At that time, "if two-thirds of the Delegates present and voting vote in favor thereof, the same shall be adopted." (Article VIII, Section 3, Constitution.)

RESOLUTION

Whereas, The physician member population of the State of California has enjoyed tremendous growth in recent years; and

Whereas, These physician members are entitled to representation in the offices and council of the C.M.A.; and

Whereas, The Constitution of the C.M.A. as it is presently constituted, does not adequately provide this representation; and

Whereas, In order to grant all members the representation they are entitled to, the Constitution of the C.M.A. must be amended;

Now, Therefore, The following amendments of the Constitution of the C.M.A. are herewith presented to this House of Delegates in accordance with Article VIII, Section 3, of said Constitution.

AMENDMENTS

ARTICLE III

Part B—Council

Section 9—Composition

The Council shall consist of:

(a) Each Councilor District, as specified in this Constitution, shall be entitled to one Councilor for each 1,000 members, according to its membership as of the first day of November of the preceding year; provided that each Councilor District shall be entitled to a minimum of one Councilor.

(b) The President, President-Elect, Speaker and Vice-Speaker.

In addition, the Secretary-Treasurer, and Editor, ex-officio, without the right to vote.

(c) District Councilors shall be elected from the Councilor Districts.

(d) Elected Councilors from any one District shall not, at any time, exceed forty per cent (40 per cent) of the total Council membership.

Section 10—Councilor Districts

There are ten districts as follows:

District Number One, comprising San Diego County.

District Number Two, comprising Imperial, Orange, Riverside, San Bernardino, Mono and Inyo Counties.

District Number Three, comprising the County of Los Angeles.

District Number Four, comprising Ventura, Santa Barbara and San Luis Obispo Counties.

District Number Five, comprising Kern, Kings, Tulare, Fresno, Madera, Mariposa, Merced, Stanislaus, San Joaquin, Calaveras and Tuolumne Counties.

District Number Six, comprising Monterey, San Benito, Santa Cruz, Santa Clara and San Mateo Counties.

District Number Seven, comprising San Francisco County.

District Number Eight, comprising Alameda County and Contra Costa County.

District Number Nine, comprising Marin, Solano, Napa, Sonoma, Lake, Mendocino, Humboldt and Del Norte Counties.

District Number Ten, comprising Sacramento, Amador, Alpine, Eldorado, Placer, Nevada, Sierra, Yuba, Sutter, Yolo, Colusa, Glenn, Butte, Plumas, Tehama, Trinity, Shasta, Lassen, Modoc and Siskiyou Counties.

Section 11—Election of Councilors

District Councilors shall be elected by vote of the delegates from each district in the manner and at the time specified in the by-laws; provided, however, that at the first meeting of the House of Delegates after a District Councilor has been selected, his name shall be submitted to the House by the delegates from the district, and (1) if there is no challenge by any delegate then the Speaker shall declare his election completed, and (2) if any delegate shall challenge the election on any ground, including fitness of the nominee of the district to serve as a District Councilor, the questions presented by the challenge shall be submitted to a Qualifications Committee consisting of the President, President-Elect and one delegate, appointed by the Speaker, from the Councilor District involved. The Qualifications Committee shall consider all grounds upon which the nominee is challenged and report back to the House. If the committee reports in favor of confirming the nominee's election, the Speaker shall declare him elected. If the committee reports against confirming the nominee's election, a three-fourths affirmative vote shall be necessary to sustain the report of the committee, in which event the nominee shall be ineligible to serve as the District Councilor and the delegates from the district shall immediately proceed to the selection of another nominee for the vacant office. If an adverse report of the Qualifications Committee is not sustained then the nominee shall be declared elected by the Speaker.

Section 14—Election of Councilors on Adoption of Amendments to This Constitution

Upon the adoption of Amendments to Article III, Part B, Sections 9, 10, 11 and 14 of this Constitution, the Delegates from each of the Councilor Districts shall proceed to elect District Councilors as follows:

At the annual meeting at which these Amendments to the Constitution are adopted, each District shall elect the number of Councilors to which the District is entitled, in accordance with Section 9, as amended, to serve for a term of three years.

Upon the adoption of the Amendments to this Constitution and the election of District Councilors, in accordance with the said Amendments, the terms of office of the Councilors-at-Large, holding office at the time of the adoption of the Amendments, will immediately cease and terminate.

In Memoriam

Anderson, Nelson Paul. Died in Los Angeles, December 1, 1957, aged 58. Graduate of Rush Medical College, Chicago, 1926. Licensed in California in 1930. Doctor Anderson was a member of the Los Angeles County Medical Association.

✣

Benson, Jean Lee. Died October 24, 1957, aged 36. Graduate of the University of Pittsburgh School of Medicine, Pennsylvania, 1946. Licensed in California in 1953. Doctor Benson was a member of the Los Angeles County Medical Association.

✣

Brandel, Harry M. Died in Los Angeles, November 16, 1957, aged 68. Graduate of Rush Medical College, Chicago, 1912. Licensed in California in 1913. Doctor Brandel was a member of the Los Angeles County Medical Association.

✣

Craft, Edgar D. Died January 21, 1957, aged 77. Graduate of Tulane University School of Medicine, New Orleans, Louisiana, 1905. Licensed in California in 1919. Doctor Craft was a retired member of the Los Angeles County Medical Association and the California Medical Association and an associate member of the American Medical Association.

✣

Dozier, Earnest. Died November 18, 1957, aged 80. Graduate of Cooper Medical College, San Francisco, 1908. Licensed in California in 1908. Doctor Dozier was a retired member of the Shasta County Medical Society and the California Medical Association and an associate member of the American Medical Association.

✣

Gay, Le Roy K. Died in San Francisco, November 21, 1957, aged 56. Graduate of the University of California School of Medicine, Berkeley-San Francisco, 1932. Licensed in California in 1932. Doctor Gay was a member of the San Francisco Medical Society.

✣

Holleran, Walter M. Died November 6, 1957, aged 68. Graduate of the College of Physicians and Surgeons, Los Angeles, 1914. Licensed in California in 1914. Doctor Holleran was a member of the Los Angeles County Medical Association.

✣

Isaac, Frank. Died October 18, 1957, aged 57. Graduate of New York University College of Medicine, New York, 1929. Licensed in California in 1949. Doctor Isaac was an associate member of the Los Angeles County Medical Association.

✣

Liljedahl, Elmer N. Died October 22, 1957, aged 65. Graduate of Washington University School of Medicine, St. Louis, Missouri, 1918. Licensed in California in 1920. Doctor Liljedahl was a member of the Los Angeles County Medical Association.

✣

McGurk, Raymond Thornton. Died in Stockton, November 11, 1957, aged 74. Graduate of Cooper Medical College, 1909. Licensed in California in 1909. Doctor McGurk was a member of the San Joaquin County Medical Society.

Rodenbaugh, Frederick H. Died October 31, 1957, aged 60. Graduate of St. Louis University School of Medicine, Missouri, 1913. Licensed in California in 1913. Doctor Rodenbaugh was a member of the San Francisco Medical Society.

✣

Scott, John William. Died November 5, 1957, aged 59. Graduate of the University of Nebraska College of Medicine, Omaha, 1925. Licensed in California in 1927. Doctor Scott was a member of the Yuba-Sutter-Colusa County Medical Society.

✣

Sisler, Frank H., Jr. Died in Auburn, October 23, 1957, aged 42. Graduate of the University of Oklahoma School of Medicine, Oklahoma City, 1940. Licensed in California in 1946. Doctor Sisler was a member of the Placer-Nevada-Sierra County Medical Society.

✣

Swanson, Leonard A. Died in Los Angeles, October 21, 1957, aged 61. Graduate of the University of Nebraska College of Medicine, Omaha, 1923. Licensed in California in 1944. Doctor Swanson was an associate member of the Ventura County Medical Society.

✣

Van Paing, John Francis. Died October 11, 1957, aged 71. Graduate of the Chicago College of Medicine and Surgery, 1914. Licensed in California in 1923. Doctor Van Paing was a member of the Santa Barbara County Medical Society.

✣

Walker, Leon R. Died in Pasadena, November 18, 1957, aged 51, of heart disease. Graduate of the College of Medical Evangelists, Loma Linda-Los Angeles, 1936. Licensed in California in 1936. Doctor Walker was a member of the Los Angeles County Medical Association.

✣

Walters, Paul R. Died in Berkeley, November 5, 1957, aged 72, of acute coronary occlusion. Graduate of Jefferson Medical College of Philadelphia, Pennsylvania, 1908. Licensed in California in 1913. Doctor Walters was a member of the Alameda-Contra Costa Medical Association.

✣

Wigim, Trueman Isaac. Died October 26, 1957, aged 72. Graduate of the Chicago College of Medicine and Surgery, 1915. Licensed in California in 1937. Doctor Wigim was a retired member of the Los Angeles County Medical Association and the California Medical Association, and an associate member of the American Medical Association.

✣

Woelz, Emily F. Died in San Francisco, November 18, 1957, aged 77. Graduate of Universität Bern Medizinishce Fakultät, Bern, Switzerland, 1920. Licensed in California in 1926. Doctor Woelz was a retired member of the San Francisco Medical Society and the California Medical Association, and an associate member of the American Medical Association.

✣

Zanger, Henry G. Died on a Mt. Hamilton ranch, November 9, 1957, aged 61, of heart disease. Graduate of the University of Minnesota Medical School, Minneapolis, 1921. Licensed in California in 1921. Doctor Zanger was a member of the Santa Clara Medical Society.

California Medical Association

1958 *Annual Session*

AMBASSADOR HOTEL, LOS ANGELES *April 27-30*

THREE POSTGRADUATE COURSES MONDAY TUESDAY WEDNESDAY 9:00 a.m.-noon	Liver Diseases—A NINE-HOUR COURSE U.S.C. SCHOOL OF MEDICINE Abdominal Pain—A NINE-HOUR COURSE U.C.L.A. SCHOOL OF MEDICINE Management of Trauma—A NINE-HOUR COURSE COLLEGE OF MEDICAL EVANGELISTS A FEE WILL BE CHARGED FOR THE ABOVE COURSES
FOUR DAYS	GENERAL SCIENTIFIC MEETINGS TECHNICAL EXHIBITS · SCIENTIFIC EXHIBITS MEDICAL MOTION PICTURES
PRESIDENT'S DINNER DANCE	TUESDAY, APRIL 29 COCOANUT GROVE, AMBASSADOR HOTEL
HOUSE OF DELEGATES	SUNDAY, APRIL 27 AND WEDNESDAY, APRIL 30

REGISTRATION DAILY · 9:00 a.m. to 5:00 p.m. · NO REGISTRATION FEE

Please make hotel room reservations only through C.M.A. office in San Francisco
(Use reservation request form on next page)

APPLICATION FOR HOUSING ACCOMMODATIONS

FOR YOUR CONVENIENCE in making hotel reservations for the coming meeting of the **California Medical Association,** April 27 to 30, 1958, Los Angeles, hotels and their rates are at the right. Use the form at the bottom of this page, indicating your first and second choice. Because of the limited number of single rooms available, you will stand a much better chance of securing accommodations of your choice if your request calls for rooms to be occupied by two or more persons. **All requests for reservations must give definite date and hour of arrival as well as definite date and approximate hour of departure; also names and addresses of all occupants of hotel rooms must be included.**

ALL RESERVATIONS MUST BE RECEIVED BEFORE: APRIL 1, 1958

Eighty-seventh Annual Session

CALIFORNIA MEDICAL ASSOCIATION

Los Angeles, California

APRIL 27-30, 1958

HOTEL ROOM RATES *

	Single	Twin Beds	Suites
AMBASSADOR HOTEL			
3400 Wilshire Boulevard			
Main Building	9.00-19.00	12.00-22.00	28.00-38.00
Garden Studios	17.00-23.00	22.00-30.00	40.00-54.00
CHAPMAN PARK HOTEL			
3405 Wilshire Boulevard		12.00-16.00	20.00-25.00
THE GAYLORD HOTEL			
3355 Wilshire Boulevard	8.00	10.50	18.00
HOTEL CHANCELLOR			
3191 West Seventh Street	7.00- 8.00	10.00-12.00	
SHERATON-TOWN HOUSE			
2961 Wilshire Boulevard	11.00-18.00	16.00-23.00	31.00

***The above quoted rates are existing rates but are subject to any change which may be made in the future.**

CALIFORNIA MEDICAL ASSOCIATION
450 Sutter Street—Room 2000
San Francisco 8, California

Please reserve the following accommodations for the 87th Annual Session of the California Medical Association, in Los Angeles April 27 to 30, 1958.

Single Room $.................... Twin Bedded Room $....................

Small Suite $.................... Large Suite $.................... Other Type of Room $....................

First Choice Hotel.................... Second Choice Hotel....................

ARRIVING AT HOTEL (date)....................Hour:..........A.M..........P.M. { Hotel reservations will be held until

Leaving (date)....................Hour:..........A.M..........P.M. { 6:00 P.M., unless otherwise notified

THE NAME OF EACH HOTEL GUEST MUST BE LISTED. Therefore, please include the names of both persons for each twin-bedded room requested. Names and addresses of all persons for whom you are requesting reservations and who will occupy the rooms asked for:

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Individual Requesting Reservations—Please print or type Delegate?.......... Alternate?..........

Name.................... County....................

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memo from: **medical review and advisory board**

OF THE CALIFORNIA MEDICAL ASSOCIATION

Analysis of Your Professional Liability Insurance Policy

JOSEPH F. SADUSK, JR., *M.D.*, Oakland, HOWARD HASSARD, *LL.B.*,
and ROLLEN WATERSON, San Francisco

THE PROBLEMS of adequate professional liability insurance coverage have become increasingly obvious to physicians with the rapid and progressive increase in premiums for such insurance since World War II. These problems, together with the growing complexity of the field and the increasing size of claims, settlements and judgments, make it mandatory for the physician to know whether or not he is adequately protected. Many are not.

Every physician should read his professional liability policy carefully to determine the extent of his coverage. The purpose of this communication is to guide him in an analysis of his contract and of other important aspects of his insurance protection.

The physician's analysis should, of course, be supplemented by the advice of an attorney who is thoroughly familiar with current malpractice trends in the state in which the physician practices. Professional liability insurance coverage is a very highly specialized branch of the industry; relatively few otherwise qualified attorneys and insurance men realize the implications of policy provisions, insuring agreements, applications, exclusions, the need for long term coverage by a stable carrier, expert claims service and other factors. Furthermore, professional liability risks are not uniform and static; the problems vary from physician to physician, from locality to locality and from time to time. Some brokers and insurance company representa-

- **The most important lessons for the physician to learn in regard to his professional liability insurance coverage are the following:**

1. The physician should carefully read his professional liability policy and should secure the educated aid of his attorney and his insurance broker, if they are conversant with this field.

2. He should particularly read the definition of coverage and carefully survey the exclusion clauses which may deny him coverage under certain circumstances.

3. If the physician is in partnership or in a group, he should be certain that he has contingent partnership coverage.

4. The physician should accept coverage only from an insurance carrier of sufficient size and stability that he can be sure his coverage will be guaranteed for "latent liability" claims as the years go along—certainly for his lifetime.

5. The insurance carrier offering the professional liability policy should be prepared to offer coverages up to at least $100,000/$300,000.

6. The physician should be assured that the insurance carrier has claims-handling personnel and legal counsel who are experienced and expert in the professional liability field and who are locally available for service.

7. The physician is best protected by a local or state group program, next best by a national group program, and last, by individual coverage.

8. The physician should look with suspicion on a cancellation clause in which his policy may be summarily cancelled on brief notice.

9. The physician should not buy professional liability insurance on the basis of price alone; adequacy of coverage and service and a good insurance company for his protection should be the deciding factors.

Member, Committee on Medical-Legal Problems, American Medical Association; formerly Chairman, Medical Review and Advisory Board, California Medical Association (Sadusk); Legal Counsel, California Medical Association (Hassard); Executive Secretary, Medical Review and Advisory Board, California Medical Association (Waterson).

tives are properly qualified and currently informed, but the fact that many are not is evidenced by the faulty contracts sold to many physicians. Many state medical associations and some county societies retain legal counsel who are well qualified to provide the highly specialized advisory service required by the purchaser of professional liability insurance.

THE GENERAL PROBLEM

The increasing problems in professional liability coverage are nationwide. In some states, insurance carriers have cancelled or drastically modified their coverages because of an increasing hazard in which the ratio of incurred losses to premiums (loss-ratio) continues to soar faster than the rapid increase in premiums.

As an example of the mounting hazard, statistics for a group program in Northern California show that during the period 1946 through 1951, one of every twelve physicians had a malpractice claim of some type levied against him each year. One of every fifty-two physicians in the program has an actual malpractice suit filed against him each year. One of every fourteen physicians had a complaint presented by a patient which required investigation by the insurance carrier.

Even more disturbing is the growing dissatisfaction of insurance carriers with the field of professional liability, with the result that more and more carriers are discontinuing insurance of this type. Indeed, some insurance carriers, realizing that this is a losing field, have offered professional liability insurance to a physician only if he permits the carrier to sell him other types of insurance on which a profit can generally be made. This is commonly known as the "package deal."

There are four factors which make the insurance carrier dissatisfied with the field of professional liability:

1. The problem of latent liability.

2. The progressive increase in losses in such insurance due to inflation and the increasingly critical attitude of public, juries and judges toward medicine.

3. The relatively small volume of sales of this type of insurance.

4. The growing dissatisfaction of physicians with the progressive increase in premiums by means of which the insurance carrier hopes to offset staggering losses.

The problem of the latency of medical practice claims is doubtless the most distressing of these factors to the insurance company. This "latent liability factor" may be defined as the relatively long lapse of time between the alleged act of malpractice and the filing of a claim or suit. With automobile and other types of liability insurance, the carrier generally knows at the end of each policy year, or shortly thereafter, the entire extent of its liability exposure. With medical malpractice, on the other hand, claims for alleged malpractice may not become known until many years after the incident which is cited as a basis for the claim. This problem varies from state to state, depending upon the statute of limitations for filing of a suit. In some states, the statute is strictly applied by the courts. In these states, the patient may file a suit only during the period defined by the statute, which begins to run on the date upon which the last treatment was given by the physician or when the patient reaches majority or regains mental competency. In California, the statute is interpreted by the courts as providing that a patient may file a suit or claim against a physician one year *after the patient has acquired knowledge* of a right of action. This means that the patient has practically his entire life or the physician's lifetime in which to file a suit. For instance, if a surgeon inadvertently leaves a clamp in an abdomen during an operation and the patient is told forty years later, when a gastro-intestinal series is made, that such a clamp is present, the patient then has one year in which to file a suit. In the case of minors, the statute of limitations begins to run only after the child reaches his majority—at age 21. Thus the physician who treats an infant today may be sued for the results of that treatment more than 21 years hence. Because of these "latent liability" factors of professional liability insurance, it is impossible for insurance carriers promptly to compute losses with any accuracy for a given year. The insurance policy for the year in which the incident occurs is the policy which covers the physician for his acts and omissions of that year, regardless of the year in which the suit is filed. This is a most important point for physicians to know.

The latent liability factor, when combined with the constant inflationary spiral, creates another major problem for the professional liability insurer. Premiums collected today are based on today's economy—upon current costs of defending cases and upon the size of judgments being awarded by today's juries. But what will the costs and the judgments be, say twenty years from today? If by that time inflation of today's economy is 100 per cent, then the premium collected today is only half enough to pay the costs and indemnities of latent suits filed in 1977 for an act of alleged malpractice in 1957.

Over the entire country it is clearly evident that the incidence of malpractice suits per hundred physicians insured has increased considerably since World War II, and that inflation has produced both an increase in the size of judgments and an increase in the cost of defense. These factors necessarily lead to an increase in the premium.

The physician should also realize that the interest of insurance carriers in medical malpractice insurance is not great because of the relatively small number of potential sales for medical malpractice insurance as compared to other types of liability coverage. The average insurance carrier looks upon the selling of malpractice insurance as a "courtesy" or "accommodation" rather than a profitable enterprise. When the problem becomes too great, the carrier deserts the professional liability field.

THE INSURANCE CARRIER

The selection of an insurance carrier for professional liability coverage is of paramount importance because of the latency of malpractice claims, i.e., a claim may be entered or a suit be filed against a physician many years after the year to which the policy and premium applies.

It is therefore most important that the insurance carrier be selected on the basis of its past, present and predictable future stability. There should be every reason to believe the company will remain in business and will remain stable for many years—at least for the duration of the physician's life. The carrier should be licensed under the insurance laws of the state in which the physician practices, or be permitted by such laws to write contracts as a surplus line insurer.

The size of the company should be substantial. One rule of thumb applied in one group program is that paid-in capital and unassigned surplus of the carrier should be at least ten times the aggregate annual gross premiums paid by all physicians in the group for malpractice insurance for the immediately preceding year, or a minimum of $5,000,000, whichever is greater. No precise rule can be stated—resources available to policyholders should be substantial.

The carrier should preferably be a company with its home office in the United States. If the carrier has its home office in a foreign country, there should be adequate reserves of the carrier *on deposit in the United States and applicable to payment of the physician's malpractice claim.* This is important since at some remote future date there may arise a conflict between the carrier and the physician as to the payment of a judgment. The physician will then be able to sue the company in his own state or in the federal courts only if the carrier is in the United States or has applicable funds on deposit in the United States. If the carrier were a foreign company, with no money on deposit and specifically assigned to this purpose in the United States, the physician would be obliged to enter suit against the carrier in the courts of the foreign country. The laws of that country could apply.

Finally, an insurance carrier with previous experience in the malpractice field should be preferred over those with no previous experience. The reason for this will become obvious in later discussion.

It is profitless to discuss the pros and cons of the stock versus the mutual company, since the matter is one of individual preference. Further, the size, stability, efficiency, experience and service of companies are the important variable factors and should be the deciding ones.

There are two additional points to consider. There should be some evidence that the policy will be renewed each year and there should be sufficient volume of business for the insurance carrier in the area in which the physician practices for it to have experienced malpractice claims adjustors and defense counsel immediately available.

TYPE OF PROGRAM

A *local* (county or state medical society) *group* malpractice program has many advantages over the individual malpractice policy. Here are a few of the advantages:

1. Better Insurance Protection

Group negotiation can make possible a far better and safer insurance contract than is uniformly made available to individual physicians. For example, some group contracts have been drafted, not by the insurance company, but by the attorney for the group. In such groups the coverage is uniformly broad, exclusions are safe and well defined and policy provisions reflect the needs of the insured as well as the insurer. Such carefully "tailored" contracts make it unnecessary for the members of the group to concern themselves with every technical detail in the policy, whereas, to be safe, physicians buying individual contracts must have them analyzed in detail.

2. No Underwriting Discrimination

Some insurance carriers discriminate against physicians who are known to be hazardous risks because of their field of work: (one carrier recently refused coverage to orthopedists, plastic surgeons and radiologists.) Who is to be excluded from medical malpractice insurance coverage—which may be tantamount to being excluded from medical practice—should be a determination of physicians rather than insurance underwriters. Such discrimination is prevented by group programs.

3. Control of Procedures by Physicians

At times and in certain areas, insurance companies have effectively prevented physicians from performing certain hazardous procedures through excluding insurance coverage of those procedures or by the device of surcharges so high that physicians could not afford to pay the premium and therefore discontinued doing the procedures. Under a group program such underwriting controls by insurance companies over what procedures a physician may perform are held within reasonable bounds.

4. Collection of Loss Data

Few, if any, insurance companies writing professional liability coverage on an individual basis keep separate and adequate malpractice loss data, none will divulge such information if they have it. Under a group program, loss data may be collected by the group and analyzed with the objectives of testing the reasonableness of premiums and, most important, establishing the underlying causes of claims and suits. Without knowledge of causes and sources of claims, there can be no effective prevention program.

5. Prevention (Safety) Programs

Based upon loss data that can be collected only under a group program, the group may set up an effective prevention—or safety—program, with a long term view to reducing the incidence of claims and lessening liability.

6. Better Defense of Suits

In addition to protection against financial loss, the professional liability carrier contracts to provide a highly specialized professional service: The defense of law suits that may be brought against the insured. The expertness of this service is of paramount importance to the physician when he becomes the target of a malpractice claim or suit. The volume of suits defended under a group program is usually great enough to provide the required experience for the defense attorney or group of attorneys retained by the group carrier. On the other hand, when physicians are separately insured under a number of carriers, their locally available attorneys seldom have enough malpractice trial work to become experts in the field. It has been learned that otherwise-brilliant attorneys who are without long experience in professional liability trial work are handicapped in the defense of a malpractice suit.

There is another reason many suits are better defended under a group program. In an increasing number of cases two or more physicians are named defendants in the same lawsuit. When each physician is individually insured by a different carrier, each has a different attorney, representing a different insurance company, to defend him. It is the duty of each of these attorneys to defend his individual client—and to protect the funds of his own insurance company. During the trial of an unwarranted suit this is sometimes accomplished by subtly pointing the finger of invented blame at another insurance company's defendant doctor. The "defense" of the case becomes a farce of shifting nonexistent blame; the jury is convinced that there is liability where actually there is none and the case is lost—by one or more of the separately insured doctors. Under a group program, however, where all defendant doctors have the same insurance, the total effort is to cooperate to defend the unwarranted *case*. The group carrier has incentive only to defend the *case*, not to get one doctor out by making another assume a liability that does not exist.

7. Better Claims Handling

Closely allied to defense is another vital service —claims handling. This involves investigation of each case, including all records and other pertinent and often highly technical medical information. Claims handling also includes negotiations with claimants and their attorneys, judgments as to whether to defend or settle cases, assistance in preparation for trial and many other matters that must be handled with great skill and understanding. It will readily be seen that years of training and experience with many professional liability claims are required to develop expert malpractice claims managers. Companies handling a small volume of professional liability cases cannot develop an able, specialized, malpractice claims handling team. Group coverage permits the development of skilled claims managers. This is of great importance to the insured physician, because poor claims handling turns minor incidents into major lawsuits that require weeks of the physician's time in preparation for trial and many days in court, not to mention financial risk and the inescapable emotional trauma. Physicians should remember that they buy *both* financial protection and a number of vital and highly specialized services when they buy malpractice insurance. The service is often more important than the financial protection.

8. Influence Over Claims Disposition

Under a proper group program, a committee of physicians representing the group assists in the investigation of the technical aspects of claims and can have considerable influence over which claims are to be paid by out-of-court settlement and which are to be defended. Without such a voice in the disposition of claims, decisions to settle or defend may be guided by insurance company expedience rather than in terms of the long range needs and objectives of the profession.

Summarizing this section, it becomes clear that neither knowledge nor control of its own malpractice problem are available to the profession except under properly designed group professional liability programs. Malpractice is a medical problem. Insurance companies can and do desert the field of malpractice, but the profession must continue to live with it. Better coverage, better claims handling and legal defense, better prevention programs, more equitable selection of risks and better control of the entire problem of professional liability are the advantages of group over individual insurance underwriting. The long range interests of the profession, rather than the immediate interests of the insurance carrier, are served by the group program.

STATE OR COUNTY VERSUS NATIONAL GROUPS

Malpractice insurance programs of the national specialty groups share some of the advantages of local group plans over individual underwriting, but there are also distinct disadvantages and dangers inherent in this approach to the professional liability problem.

The advantages the national specialty group programs can share with local group plans are enumerated above under the headings, "Better Insurance Protection," "Control of Procedures by Physicians," "Collection of Loss Data," "No Underwriting Discrimination," and, in a limited sense, "Prevention (Safety) Programs."

The dangers of the national specialty group malpractice insurance plans may be summed up in the general statement that they divide the profession locally and are too remote to assure the physician that he will have good claims handling and, perhaps, good defense. Malpractice claims and suits have local origins and must be investigated, handled and defended locally. If all specialists and general practitioners in the local community are insured under their separate national programs, then they have lost the local cooperative and community of interest of all physicians that is so essential to prevention and to the handling and defense of claims.

Today, most cases involve two or more specialties; unity not division is needed. The general practitioner who first saw the patient, the specialists who later assisted in the diagnosis or treatment of the patient —all often become defendants in the same suit. With each physician separately insured under his own national specialty program, the dangers and disadvantages of a divided defense are present. Each attorney tries to "get his client out"—often at the expense of creating a nonexistent case against other defendant doctors. A divided defense of unwarranted suits increases the costs of malpractice to the profession. All doctors in a given community, regardless of practice, should be insured under the same carrier. Only under such local group programs can there be a united approach to a common problem.

In any given local area, a national specialty program will probably lack sufficient concentration of insured doctors to provide the volume of claims and suits necessary to produce *locally* the expert and experienced claims personnel and malpractice defense attorneys so desperately needed by the physician when he is sued. Claims must be investigated and defended locally.

National specialty societies can join the needed campaign to educate physicians in the causes and prevention of malpractice claims and suits. But all of the actual prevention must be done at the local level, with the cooperation of physicians in all types of practice, or it will not be done at all. For example, there is reliable information that proper hospital staff organization, with adequate supervision and control of the professional work, results in a low incidence of suits and claims against the physicians who work in the hospital. In other hospitals, where there is little or no staff control over the professional work, the incidence of claims and suits against physicians on the staff is far greater. It becomes clear that effective medical staff organization is an important factor in malpractice prevention; this cannot be accomplished by national programs that divide the staff members. It can be accomplished only by local cooperation of physicians in general practice and in all the specialties, with a common interest in a single local malpractice program.

Most of the causes of malpractice claims and suits require local treatment by a unified local profession. Causes vary from state to state—even from county to county. The applicable law is different in every state. The national specialty societies can help in solving the problem only through the use of their excellent facilities for professional education. They cannot take the local action necessary to malpractice prevention.

Consequently, it is suggested that physicians set up local group programs for the handling of professional liability insurance. Whether this be set up on a county, regional, or state basis depends upon factors such as the geography and size of the state. The important point is that a local group program, properly conceived and operated, has greater potential than either individual coverage or national specialty group coverage.

TYPE OF CONTRACT AND EXCLUSION CLAUSES

The insurance policy should contain a broad definition of the acts or omissions insured against, that is, all claimed malpractice, errors or mistakes, breech of implied contract, assault, battery, slander, etc. Some of the deficiencies found in representative professional liability insurance policies involve the way they exclude coverage for alleged criminal acts such as assault and battery or abortion, guarantees of diagnosis and treatment, restrictions as to use of fluoroscope and performance of medical practice under the influence of "drugs," and certain hazardous procedures such as spinal anesthesia.

It is certainly clear that the insurance carrier should not be obligated to pay for claims or judgments resulting from criminal acts. However it is likewise clear that such charges may be erroneously brought against the physician by the patient and consequently a proper policy should not exclude *defense* of the physician for these charges. The contract may properly exclude *indemnity* for claim or judgment but the physician should first be found guilty of these charges. In other words, it should be up to the court—not the insurance company—to determine whether the doctor is guilty of a criminal act or is practicing under the influence of alcohol or narcotics.

The use of terms such as "practicing under the influence of drugs" is potentially detrimental to the physician since the term "drugs" includes practically any type of medication. If the physician takes a capsule of a barbiturate to promote sleeping for the night, an alleged act of malpractice performed during that night could be excluded by the company not only for payment of a claim or judgment but also for defense, since properly speaking, a barbiturate is a "drug." To summarize this point, there should then be no exclusions as to the obligation of the carrier to defend. Exclusions should apply only to the *indemnity* for criminal acts, or acts undertaken by the physician while under the influence of *narcotics* or *alcohol.*

This also brings up the important point of the "guarantee of diagnosis or treatment." Again, there should be no exclusions as to obligation of the carrier to *defend* for such alleged guarantee to the patient. If, in the trial of the case it becomes apparent that the physician was guilty of guaranteeing the diagnosis or treatment, then it would be proper for the insurance company to refuse to indemnify.

In some insurance policies, there is an exclusion of coverage for the use of "hand fluoroscopes." This is a deleterious exclusion clause for the physician, since the term "hand fluoroscope" is rather general. Does this term apply to the fluoroscope generally used by the physician in present day practice? Or does it apply to the portable fluoroscopic screen, commonly used many years ago, with regular x-ray apparatus? Consequently, such exclusions for hand fluoroscopes should not be accepted by the physician, unless there is a clear definition of what the term "hand fluoroscope" means.

The exclusion of certain types of hazardous procedures such as the caudal or spinal anesthesia is again detrimental to the insured. As physicians, we realize that hazardous procedures from time to time have to be employed for the benefit of the patient. Consequently, it is necessary for the insurance carriers to cover such hazardous procedures, provided the physician is willing to pay an appropriate premium for the hazard involved. Other types of medical procedure or treatment which are specifically excluded by the insurance carrier should be considered with a great deal of suspicion by the physician.

There should be a provision that there can be no settlement of a claim without the written consent of the insured physician, or a committee representing the group program (if the physician holds a policy under a group program). In other words, the physician should have the privilege of determining whether or not he wishes to have the case settled, or he should delegate this privilege to colleagues who constitute a committee for review of his case. The physician must be careful in this respect that the policy does not include qualifying clauses as to the settlement which provide that the physician must pay the difference between the amount of a judgment and the amount for which the carrier could have settled the claim if the physician had not insisted upon defending it.

Finally, the physician should not accept an insurance policy in which the exact names of his insurance carriers or a combination of such carriers and their appropriate percentages of coverage are not specifically named. He should not accept a policy with a general term indicating a group of carriers without having in hand the specific enumeration of the insuring companies and their addresses. This is particularly important in some contracts in which the broad terms "Lloyd's Underwriters and/or Other Companies," "British Companies" or other vague identifications are used. The importance of this is that ten or fifteen years later, the brokers who sold him the contract may no longer be in existence and, consequently, the physician will not then know the specific company to which he must apply for defense and payment of a claim.

CANCELLATION CLAUSE

Insurance carriers, wishing to protect themselves against continuing bad risks, usually include a cancellation clause in their insurance policies. This cause is extremely variable, ranging anywhere from a statement which provides that the policy may be cancelled on a ten-day written notice to the holder, up to group insurance provisions that the policy may be cancelled only at the end of a given policy year. In this respect, it is clear that for his own protection the physician should secure a favorable cancellation clause.

If the physician accepts an insurance policy with a ten-day cancellation clause, he suddenly may find himself with a letter served upon him in which he is informed that within ten days of the mailing of the letter he no longer has professional liability insurance coverage. Most group programs specify that the policy may be cancelled only after a given contract year, or that only a certain percentage of those covered under a given contract year may be cancelled upon a ten-or-thirty-day notice. Here again, is an example of the added protection of group coverage in contrast to individual coverage.

CONTINGENT PARTNERSHIP COVERAGE

Doctors who are in partnership or in group practice should realize that they are responsible for the acts of their partners or other members of the group. If a judgment is rendered against a partner or a member of a group, and the physician against whom the judgment was entered does not have sufficient coverage to meet the requirements of the judgment, the partnership or group may have its assets attached for full payment of the claim. Consequently, the physician who is in partnership or in a group should realize that he needs what is termed "contingent partnership" liability coverage.

Such coverage is ordinarily obtained with most insurance carriers by the payment of an additional premium, the amount of which differs from company to company and depends of course on the amount of coverage which the physician carries. In the lower brackets of coverage, the additional premium for contingent partnership liability may be relatively high, ranging up toward 40 or 50 per cent additional premium for the very low limits of $5,000/$15,000. As one approaches the higher limits of coverage, this additional premium decreases.

The physician with partnership liability should realize that he may have no such protection unless contingent partnership liability coverage is specifically expressed in his policy.

AMOUNT OF COVERAGE

Maximum limits of liability offered by the insurance company should be available in an amount of not less than $100,000 per malpractice incident and $300,000 per contract year. The physician should be permitted to select lower coverage limits within the standard brackets up to the amounts of $100,000/$300,000 per contract year. Those engaged in particularly hazardous types of practice may wish to secure coverage in excess of $100,000/$300,000 per year. There is no more miserable person than the physician who has a coverage of $10,000/$30,000 or $25,000/$75,000 when he is sued for $100,000 or over. The physician should remember that he must protect himself against financial ruin by securing adequate malpractice insurance coverage.

PREMIUM RATES

Medical malpractice insurance premiums, like premiums for other types of insurance, are calculated on the basis of the total of expected losses plus expected expenses. In the best of circumstances when accurate data are available on previous annual losses, the insurance carrier takes this data into account and adds to it the cost of administering the program (sales, federal and state taxes, home and district office expenses, and employees' salaries), costs of special investigation, court costs, attorneys' fees, and agents' or brokers' commissions, if any, to arrive at a given annual premium. In the case of a stock company, a fair dividend return to the stockholders is included in the expenses. In the case of a mutual company, a part of the profit resulting from a given year's operation is added to general reserves and the balance is returned to the policyholders in the form of a dividend.

The calculation of premiums for medical malpractice insurance is extraordinarily difficult due to the factors of latent liability, inflation, an increasingly critical attitude of the public and the generosity of juries in awarding higher and higher judgments. Therefore, medical malpractice premiums are at the very best set by an educated guess.

Consequently, the physician should realize that his premiums are calculated on as scientific a basis as is possible under the circumstances. He must not be misled by an insurance carrier which offers a professional liability policy at an extraordinarily low premium. If such is offered to him, he should even more carefully read his policy, determine who the carrier is, what their experience is in the field, and critically survey the exclusion clauses to make certain that important segments of protection are not excluded. In insurance, as elsewhere, one gets only what one pays for. A "cheap" professional liability policy can be very expensive when one is sued. A physician should not buy a professional liability policy on the basis of price alone; quality of the policy and adequacy of coverage and services are infinitely more important considerations.

Here again, a group program is to be desired, because the carrier usually agrees to provide data on losses to support premiums. The individual policyholder is entirely at the mercy of the company, since no insurance carrier is going to release to him as an individual its complete financial accounting with respect to malpractice policies in his area.

DEFENSE OF CLAIMS AND SUITS

The physician should be satisfied that the insurance carrier has an experienced and adequate investigation staff, and that it will employ a defense attorney who is competent to analyze and defend a medical malpractice case. As emphasized above, this point is of particular importance because medical malpractice insurance is a very highly specialized field. Claims adjustors and investigators and attorneys who are experienced in the general field of personal injury may not necessarily have the proper knowledge adequately to process and defend a medical malpractice case.

SELECTION OF PHYSICIAN POLICYHOLDER

Eligibility to obtain a malpractice insurance coverage should be available to any physician in good standing in his medical community. No physician should be denied the privilege of securing malpractice insurance coverage, nor should his contract be cancelled because, in the patient's interest, he is practicing in a hazardous field of medicine or surgery. To be sure, the insurance carrier should have the privilege of setting the premium properly to reflect the hazard which the physician's practice presents, but in this day and age it is most imperative that physicians' policies not be summarily disapproved or cancelled because their practice represents an unusual risk.

The only cause for rejecting a physician for coverage or for cancelling his contract should be low individual quality of practice and not the fact that he is in a hazardous field. Evaluation of the quality of practice should of course be made by physicians.

459 30th Street (Doctor Sadusk); 111 Sutter Street (Mr. Hassard); 450 Sutter Street (Mr. Waterson).

Important!

SCIENTIFIC MOTION PICTURES

Attention—All Members of the California Medical Association

At the 1958 annual meeting of the California Medical Association, to be held at the Ambassador Hotel, Los Angeles, April 27 through April 30, approximately 100 motion pictures on surgery and medicine will be shown on the program of the Motion Picture Division.

The educational and scientific value of motion pictures has been proven by the large attendance at the Motion Picture Section during our previous meetings.

If you would like to present a scientific motion picture film on this program, you must submit your application to the committee for approval not later than February 15, 1958.

Address all communications to: Arthur E. Smith, M.D., D.D.S., chairman, Motion Picture Division, California Medical Association, 1930 Wilshire Boulevard, Suite 511, Los Angeles 57, California.

WOMAN'S AUXILIARY
TO THE CALIFORNIA MEDICAL ASSOCIATION

Reminiscing

THIS IS THE SEASON for reminiscing, and as I look back over the year I realize how little I could have accomplished without the help of friends and co-workers. It is a privilege to serve American Medicine, and today I'm thinking of a few of the people who have served the Auxiliary, many of them making personal sacrifices to do so.

My thoughts naturally turn to Dr. Frank A. MacDonald, President of the California Medical Association. I like to call him my boss. He has endeared himself to many of the Auxiliary—his smile, his warmth, his charm and most of all, his understanding. To quote Dr. Ralph C. Teall, "Conscientious, hard-working, serious in approaching problems assigned to him, thorough and thoughtful in developing solutions to them, he attacks all his problems with a youthful zest that is contagious, and that offers a continuing challenge to his confreres of whatever age." His belief in the Auxiliary is self-evident, and it is a real pleasure to serve with him.

Then, too, there is the Advisory Board; Dr. MacDonald heads it. Serving with him are: Drs. Francis E. West, Albert C. Daniels, John W. Cline and R. Stanley Kneeshaw. All of these men have served American Medicine with patience, loyalty and devotion. They are never too busy to help us, and we in turn do a better job for American Medicine.

No mere words can ever express the devotion of the Woman's Auxiliary to Robert Thomas, our liaison between the Medical Association and the Auxiliary. We are indeed indebted to him for his generous, wholehearted help and advice, and to John Hunton and the entire C.M.A. staff for their help and cooperation throughout the year.

And now my thoughts turn to my executive committee, the counsel they give me, the enthusiasm with which they face the task ahead. These are women I have worked with for years. They are old friends, all of us working together to evaluate, select and adapt projects and programs best suited to the needs of the state and county.

Have you ever thought of the thousands of man-hours given by physicians' wives in the service of American Medicine? For instance, Mrs. Lloyd C. Fisher, chairman of Nurse Recruitment, with a master's degree from the University of Southern California, a woman with an affinity for organization, an insatiable curiosity of life and a zest for living. Her husband shares her interest in nursing, and frequently they are touring the state, talking to physicians' wives on the subject of recruitment, Future Nurse Clubs and scholarships. Because Nurse Recruitment is our Number One project, Mrs. Fisher travels more than any other person in the Auxiliary excepting the president.

Because a budget is an essential of any well-run organization, and because it is most exacting, we have a twosome who are repeating this year as state chairman of finance and state treasurer: Mrs. Arthur Hurd of San Marino, and Mrs. Lawrence Custer of San Francisco. Both have a long record of service to the Auxiliary. Without them, we could not operate.

And then there are the councilors-at-large, chairmen of standing committees; they keep the programs and projects before the Auxiliary; they are our informers on legislation, public relations, physicians' benevolence, *Today's Health* and *Bulletin* and the American Medical Education Foundation. Then, too, there is the editor of our *Courier*, considered the outstanding publication of its kind in the United States. Then our special committee chairmen do an excellent job; some of them are informative, others are part of the structure of an organization: Civilian Defense (I like to think of it as self help and mutual aid), Gems (the training of good emergency mother substitutes), revisions, historian, exhibits and the convention chairmen.

This year our district councilors, and there are eleven of them, have worked hard to "inform the membership." Many have traveled miles to interpret state policies; others are having district meetings with county presidents and presidents-elect in attendance. Together mutual problems are discussed, and the role of the district councilor becomes an important one.

Many hundreds of other women on the state and county level have shared the work load. Is it any wonder with all of this capable help at my finger tips, that my thoughts turn to them, individually and collectively?

It has been my privilege and pleasure to work with and for the California Medical Association. To all of you who have given us guidance, counsel and encouragement, I express my deep and sincere thanks. We, the Auxiliary, take pride in our achievements, and for all of you everywhere, A Very Happy New Year.

MRS. LEONARD D. OFFIELD
President, Woman's Auxiliary to the
California Medical Association

January 1, 1958

REGIONAL POSTGRADUATE INSTITUTE

SOUTHERN COUNTIES

Presented by Postgraduate Activities Committee of the California Medical Association, in cooperation with San Bernardino, Orange and Riverside County Medical Societies, and College of Medical Evangelists, Harold M. Walton, M.D., Chairman, Section on Graduate and Postgraduate Medicine.

Arrowhead Springs Hotel, San Bernardino

February 13 and 14

PROGRAM

Guest Speaker: Maxwell M. Wintrobe, M.D., Professor and Head, Department of Medicine, College of Medicine, University of Utah; Director, Laboratory for the Study of Hereditary and Metabolic Disorders, University of Utah.

THURSDAY, FEBRUARY 13, 1958

9:00-10:00 a.m.—**Management of Leukemias and Lymphomas**—Maxwell M. Wintrobe, M.D.

10:00-10:50 a.m.—Two Concurrent Panel Discussions* (you may go to one of your choice):

Office Problems in Pediatrics

Hypertension—Where Are We in Management?

11:05-12:00 a.m.—Two Concurrent Panel Discussions* (you may go to one of your choice):

Management of Premature and Sick Infants

Coronary Artery Disease—Preventive Aspects

12:15-1:45 p.m.—Luncheon—One faculty member will be seated at each table for informal discussions with physicians present.

New Trends in Postgraduate Education—Edward C. Rosenow, Jr., M.D., Chairman, California Medical Association, Postgraduate Activities Committee.

2:00-3:00 p.m.—**Virus Diseases and Immunization**—James J. Quilligan, M.D., Associate Professor of Pediatrics

3:00-3:50 p.m.—Two Concurrent Panel Discussions* (you may go to one of your choice):

Management of Low Back Pain

Iron Deficiency Anemias—Diagnostic and Therapeutic Procedures

4:05-5:00 p.m.—Two Concurrent Panel Discussions* (you may go to one of your choice):

Clinical Use of Physical Therapy Modalities—Demonstrations

Hemolytic and Other Normacytic Anemias

6:30-12:00 p.m.—Social Hour—Banquet

What's Your Public Relations I.Q.?—Jerry L. Pettis, Assistant Professor of Cultural Medicine; Public Relations Counsel, Los Angeles County Medical Association

FRIDAY, FEBRUARY 14, 1958

9:00-10:00 a.m.—**Newer Developments in Diagnosis and Therapy in Thyroid Disease**—Walter L. Stilson, M.D., Professor of Radiology; Paul H. Deeb, M.D., Associate Professor of Radiology

10:00-10:50 a.m.—Two Concurrent Panel Discussions* (you may go to one of your choice):

Special Problems in Management of Diabetic Patients

Management of Traumatic Chest Injuries—Industrial and Highway Accidents

11:05-12:00 a.m.—Two Concurrent Panel Discussions* (you may go to one of your choice):

Insulin and Its Substitutes

Cardiac Surgery—Indications, Management, Prevention of Complications

12:15-1:45 p.m.—Luncheon

2:00-3:00 p.m.—**Newer Concepts in Management of Epilepsy**—Cyril B. Courville, M.D., Professor of Neurology

3:00-3:50 p.m.—Two Concurrent Panel Discussions* (you may go to one of your choice):

Toxemias of Pregnancy

Management of Rheumatic Heart Disease—Indications for Antibiotics, Duration of Treatment

4:05-5:00 p.m.—Two Concurrent Panel Discussions* (you may go to one of your choice):

Avoiding Trouble With the Patient in Labor

Postoperative Care of Surgical Patients

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*Each panel discussion will be led by three faculty members and one physician from the community.

HOST: San Bernardino County Medical Society . . . **REGIONAL CHAIRMAN:** Elmer O. Carlson, M.D., 756 North Euclid Avenue, Ontario . . . **Special Palm Springs Tour** for the ladies all day Thursday, February 13 for $4.50 (includes luncheon at Desert Inn). **Institute Fee:** $20.00. For additional information, contact Postgraduate Activities office, California Medical Association, 417 South Hill Street, Los Angeles 13. **All California Medical Association members and their families are cordially invited to attend.**

NEWS & NOTES

NATIONAL · STATE · COUNTY

FRESNO

Dr. John F. Murray was installed as president of the Fresno County Medical Society at a meeting in December, succeeding Dr. James M. Arthur, who was named to a three-year term on the society's board of directors. Elected president-elect was Dr. Robb Smith of Orange Cove. Dr. Arthur F. Howard was elected vice-president, and Dr. Max S. Millar secretary-treasurer.

LOS ANGELES

Dr. Lewis T. Bullock was elected president of the Los Angeles County Medical Association, it was announced recently. He succeeds Dr. J. Norman O'Neill. Dr. Malcolm R. Hill was elected vice-president and Dr. William F. Quinn secretary-treasurer. Elected trustees of the association were Dr. Robert J. McNeill and Dr. Edward H. Crane.

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Announcement of the 26th annual Alumni **Postgraduate Medical Convention** of the College of Medical Evangelists to be held February 25 to 27 in Los Angeles was made recently.

The program will consist of a series of panel discussions and individual presentations on medical and legal subjects.

Preceding the three-day scientific assembly at the Hotel Biltmore, a two-day series of refresher courses will be offered on the CME campus. Courses and scientific assembly sessions are open to all physicians. Last year's convention registration included nearly 1,000 physicians.

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Dr. Leo G. Rigler, Los Angeles, was elected president of the Radiological Society of North America at the annual meeting of the Society held in Chicago in November. Dr. Rigler recently began an association with Cedars of Lebanon Hospital in Los Angeles as consultant in radiology following long tenure as director of the department of radiology and professor at the University of Minnesota School of Medicine.

SAN BERNARDINO

Dr. Philip M. Savage was installed as president of the San Bernardino County Medical Society at a meeting of the organization last month, succeeding Dr. Ben D. A. Miano. Dr. Clarence T. Halburg was named president-elect, Dr. Gerald Mraz vice-president and Dr. Cline N. Mapes secretary-treasurer.

SAN FRANCISCO

Awards totaling $447,000 from funds of the National Institutes of Health to support various **research projects at Stanford University School of Medicine** were announced recently by the U. S. Public Health Service.

The awards, the recipients and the nature of the studies are as follows:

Herbert L. Abrams, $96,410. X-ray motion pictures of the human heart.

Jerome W. Bettman, $3,815. Effect of drugs on intraocular circulation.

Katherine P. Bradway, $2,139. I.Q. changes from preschool to adulthood.

Roy B. Cohn, $14,227. Reversibility of changes in the walls of blood vessels.

Roland A. Davison, $4,255. Measurement of blood flow in bone.

Frederic L. Eldridge, $14,792. Studies on the mechanism of dyspnea.

Eugene M. Farber, $23,989. Cutaneous blood circulation in skin disorders.

Knox H. Finley, $40,280. Behavioral sequelae of encephalitis in children.

Milton Flocks, $10,120. Physiology and anatomy of trabecular meshwork.

Frank Gerbode, $48,849. Problems in cardiovascular surgery.

Houghton Gifford, $6,015. Membrane parabiosis and tissue incompatibility.

Avram Goldstein, $10,648. Cellular mechanisms of drug tolerance.

Ruth T. Gross, $21,252. Intermediary metabolism in the newborn and premature.

Herbert N. Hultgren, $24,535. For cardiac motion, heart sounds and murmurs and $3,450 for fixed resistance of pulmonary circulation.

Arthur Jampolsky, $7,342. Investigation of ocular divergence mechanisms.

Sumner M. Kalman, $13,750. Uterine permeability.

Henry S. Kaplan, $10,637. For linear accelerator radiation therapy and $12,420 for nucleic acid changes during lymphoid tumor induction.

John A. Luetscher, $22,101. Aldosterone in human urine.

Carolyn F. Piel, $18,554. Electron microscopy of experimental renal diseases.

Lowell A. Rantz, $24,665. Hemolytic strep infection and rheumatic fever.

Laurens P. White, $13,008. Serum enzymes in cancer patients.

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Seven **grants in support of research** projects being supervised by members of the staff of Mt. Zion Hospital, San Francisco, were announced recently by the U. S. Department of Health, Education, and Welfare. The awards and the directors of the projects are as follows: $14,662 for Dr. Stanley Burton; $13,390, Dr. Gerson Biskind; $13,800, Dr. B. L. Freedlander; $11,880, Dr. Felix Pearl; $14,731, Dr. Sanford Leeds; $20,422, Dr. Erika Chance; $3,450, Dr. Elliot Rapaport. The research is being done in the fields of heart disease, cancer, chemotherapy, experimental surgery and psychiatry.

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Dr. L. Henry Garland, San Francisco, recently received a scroll commemorating his appearance as Carman Lecturer at the Radiological Society of North America's 43rd annual meeting held in Chicago, November 16 to 22. The Carman lecture honors the memory of the late Dr. Russell D. Carman, pioneer American radiologist.

Dr. Garland is a past president of the society.

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The annual dinner meeting of the San Francisco chapter of the **Pan American Medical Association,** honoring the consular representatives of the American nations and visiting Canadian and Latin American physicians and students, was held at the Bohemian Club, Saturday, December 7, 1957. Charles Pierre Mathé, chairman of the regional directors, greeted the consuls. The Hon. André Rouzier, president of the Asociación de las Naciones Americana and Consul General of Haiti, responded. George H. Reiferstein, M.D., director of medical education at St. Mary's Hospital, spoke on "The Present Day Program of Inter-American Medical Education."

Officers elected for the ensuing year were: President, Dr. Knox H. Finley; first vice-president, Dr. Fernando G. Gomex; second vice-president, Dr. Harold I. Harvey; treasurer, Dr. Paul G. Fuerstner; secretary, Dr. J. Randolph Sharpsteen; chairman of regional administrators of California, Dr. Mathé.

SAN MATEO

Dr. William H. Thompson, Burlingame, was elected president-elect of the San Mateo County Medical Society at its annual meeting in December. Dr. Ferrall H. Moore of Redwood City was installed as president. Names to vacancies on the society's board of directors were Drs. John W. Findley of San Mateo and Thomas C. Stevenson of Menlo Park. Dr. Robert O. Holmes, San Mateo, was elected secretary-treasurer.

SANTA CLARA

Dr. Edward Liston, Palo Alto, was elected president-elect of the Santa Clara County Medical Society at the society's recent membership meeting. Dr. J. Frederic Snyder of San Jose was installed as president at a meeting in December, succeeding Dr. Thomas N. Foster.

GENERAL

The American College of Physicians names the following physicians from the state of California as fellows of the college at the November 9 and 10, 1957, meeting of the board of regents at the College headquarters in Philadelphia: Beverly Hills, Raymond Caren; Los Angeles, Varner J. Johns, Jr., Herman Weiner, Morris Wilburne; Oakland, Joseph Paul Belber; Palo Alto, Stanford Shea Kroopf; Redlands, Harold Merrill Hill; San Francisco, Paul Michael Aggeler, Frank Arthur Solomon, Jr.; San Jose, James Robert Green, Teresa McGovern, Jonas Henry Sirota; and Santa Barbara, Casimir Anthony Domz, Jerome Albert Ecker.

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The 57th annual meeting of the **Medical Library Association** will be held in Rochester, Minnesota, from June 2 through June 6, 1958. The theme of the meeting will be "Advances in Medical Library Practice." Mr. Thomas E. Keys, Librarian of the Mayo Clinic is convention chairman. Letters of inquiry should be addressed to him.

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A new nonprofit foundation has been established to support and stimulate research clinical, and education programs in **Tay-Sachs' disease** and allied heredo-familial, neurodegenerative diseases of infancy and childhood. The scope of the program will include, in addition to Tay-Sachs' disease, Niemann-Pick's disease, infantile Gaucher's disease, Schilder's disease, diffuse sclerosis, amyotonia congenita, Friedreich's ataxia, and others. The foundation is known as National Tay-Sachs Association, Inc., New York Chapter, and is composed of parents who have had afflicted children, interested laymen, and medical personnel in the field. Further information on the foundation may be obtained from the Medical Committee, National Tay-Sachs Association, Inc., New York Chapter, P. O. Box 1250, G. P. O., New York 1, N. Y.

POSTGRADUATE
EDUCATION NOTICES

THIS BULLETIN of the dates of postgraduate education programs and the meetings of various medical organizations in California is supplied by the Committee on Postgraduate Activities of the California Medical Association. In order that they may be listed here, please send communications relating to your future medical or surgical programs to: Mrs. Margaret H. Griffith, Director, Postgraduate Activities, California Medical Association, 417 South Hill Street, Los Angeles 13.

UNIVERSITY OF CALIFORNIA AT LOS ANGELES

Advanced Practical Clinical Chemistry for Laboratory Technologists. Wednesdays, January 15 to March 5. Twenty-four hours (for lecture and laboratory). Fee: $35.00. Eight hours (for lecture alone). Fee: $20.00.

Management of Surgical Emergencies. Thursday, January 23, 1958. Six hours. Fee: $40.00.

Disorders of Fluid and Electrolyte Metabolism, Etiology and Management. Tuesdays, February 25 to May 13, 1958. Twenty-four hours.†

General Surgery. Wednesday, starts February 26. Twenty-four hours.†

Arthritis and Rheumatism. Wednesday, March 5. Six hours. Fee: $5.00.

Diagnostic Parasitology for Laboratory Technologists. Wednesdays, March 12 to May 28. Thirty-six hours. Fee: $40.00.

Proctology. Wednesday, April 16. Six hours.†

Emotional Problems in Office Practice (at Lake Arrowhead), Thursday through Saturday, June 5 to 7. Twelve hours.†

Recent Advances in Clinical Hematology. Wednesday. Date to be announced. Six hours.†

Dermatology in General Practice. (Course limited to 20.) Date to be announced. Wednesday. Twelve hours.†

Casts. Date to be announced. Wednesday. Six hours.†

Contact: Thomas H. Sternberg, M.D., Assistant Dean for Postgraduate Medical Education, U.C.L.A., Los Angeles 24. BRadshaw 2-8911, Ext. 202.

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

Everyday Psychiatry. Mount Zion Hospital, Thursday to Sunday, January 9 to 12. Twenty-eight hours. Fee: $40.00.

Newborn Medicine (Physicians). Monday and Tuesday, January 13 and 14. Fourteen hours. Fee: $40.00.

Newborn Medicine (Nurses). Wednesday, January 15. Seven hours. Fee: $10.00.

Ophthalmoscopy in General Practice and Pediatrics. Wednesday and Thursday, January 15 and 16, 1958. Fourteen hours. Fee: $40.00.

Emergency and Medical Therapy in Dental Practice. Friday and Saturday, January 17 and 18. Fourteen hours. Fee: $40.00.

Postgraduate Dermatology Clinic. Friday and Saturday, January 17 and 18, 1958. Fourteen hours. Fee: $40.00.

Nontraumatic Emergencies. Franklin Hospital, Friday and Saturday, January 17 and 18. Fourteen hours. Fee: $40.00.

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†Fee to be announced.
*Hours and Fees to be announced.

Seminars in Hematology. Children's Hospital, Saturday, January 25. Seven hours. Fee: $12.50.

Patho-Physiology of the Gastrointestinal Tract. Sunday through Tuesday, January 26 through 28, 1958. Seventeen hours. Fee: $40.00.

Physical Medicine in Office Practice. Friday and Saturday, February 7 and 8, Fourteen hours. Fee: $40.00.

Edema-Pathogenesis and Treatment. Thursday through Saturday, February 13 to 15. Twenty-one hours.†

Postgraduate Seminars in Pharmacy. Thursday to Saturday, February 20 to 22. Fifteen hours. Fee: $25.00.

Medical Emergencies. (Herrick Hospital, Berkeley). Thursday through Saturday, February 20, 21 and 22. Twenty hours. Fee: $50.00.

Bedside Cardiology. Monday through Friday, March 24 through 28. Thirty-five hours.†

Course for Physicians in General Practice. Monday through Friday, February 24 to 28, 1958. Thirty-two hours.†

Children's Hospital Medical Seminar. Saturday, March 29. Seven hours†

Fundamental Principles of Radioactivity and the Diagnostic and Therapeutic Uses of Radioisotopes. Two or three month course limited to one enrollee per month. Per month, $250.00.

Contact: Seymour M. Farber, M.D., Head, Postgraduate Instruction, Office of Medical Extension, University of California Medical Center, San Francisco 22. MOntrose 4-3600, Ext. 665.

STANFORD UNIVERSITY SCHOOL OF MEDICINE

Morning Clinical Conferences, each Monday, Room 515. *Contact:* D. H. Pischel, M.D., Professor, Division of Ophthalmology, Stanford University School of Medicine, 2398 Sacramento St., San Francisco 15.

Postgraduate Conference in Ophthalmology. March 31 to April 4.*

UNIVERSITY OF SOUTHERN CALIFORNIA, LOS ANGELES

Cardiac Resuscitation. Sponsored by the Los Angeles County Heart Association each Wednesday throughout the year, 4 to 6 p.m. Residents admitted without fee. Tuition for all other physicians: $30.00. (Each session all-inclusive.)

Basic Home Course in Electrocardiography. One year Postgraduate Series, electrocardiogram interpretation by mail. Physicians may register at any time and receive all 52 issues. Fifty-two weeks. Fee: $100.00.

Advance Home Course in Electrocardiography. One year postgraduate series, electrocardiogram interpretation by mail. Fifty-two issues: $85.00. Physicians may register at any time.

Cardio-Respiratory Physiology. January 9 to March 27, Hospital of the Good Samaritan. Course designed for interns and consultants in cardiac and pulmonary diseases. 8:00 to 10:30 p.m. Fee: $65.00.

Special Announcement: From August 5 to August 21, 1958, the University of Southern California School of Medicine will hold a postgraduate course in Honolulu and on board the *S.S. Matsonia.* The course will center around actual case histories, which will be used to emphasize diagnostic and therapeutic features.

Contact: Phil R. Manning, M.D., Director, Postgraduate Division, University of Southern California School of Medicine, 2025 Zonal Avenue, Los Angeles 33. CApital 5-1511.

COLLEGE OF MEDICAL EVANGELISTS

Vue-Vox Postgraduate Refresher Courses. Courses are made up of four or more half-hour lectures each, recorded on hi-fi magnetic tape and illustrated by 35-mm. filmstrips or slides in full color, and adapted for use on any standard tape recorder and filmstrip or slide projector, automatic or manual.

Contact: Paul D. Foster, M.D., chairman, Committee on Audio-Visual Courses, College of Medical Evangelists School of Medicine, 316 North Bailey St., Los Angeles 33.

CALIFORNIA MEDICAL ASSOCIATION POSTGRADUATE COURSES

POSTGRADUATE INSTITUTES—1958

San Bernardino, Riverside and Orange Counties, in cooperation with College of Medical Evangelists, Arrowhead Springs Hotel, San Bernardino County, February 13 and 14, 1958. Chairman: Elmer O. Carlson, M.D., 756 N. Euclid Ave., Ontario.

West Coast Counties, in cooperation with UCLA School of Medicine, Golden Bough Theater and La Playa Hotel, Carmel, March 6 and 7, 1958. Chairman: Howard C. Miles, M.D., 535 E. Romie Lane, Salinas.

Sacramento Valley Counties, in cooperation with University of California School of Medicine. El Dorado Hotel, Sacramento. March 14 and 15. Chairman: Fred Schroeder, M.D., 2909 J Street, Sacramento.

San Joaquin Valley Counties, in cooperation with Stanford University School of Medicine, Hotel Californian, Fresno, March 20 and 21, 1958. Chairman: Henry L. Tiesche, M.D., 1759 Fulton St., Fresno.

North Coast Counties, in cooperation with USC School of Medicine, Hoberg's Resort, Lake County, April 10, 11 and 12, 1958. Chairman: Alfred A. Thurlow, Jr., M.D., 185 Sotoyome Ave., Santa Rosa.

Contact: One of the chairmen listed above, or Mrs. Margaret H. Griffith, Director, Postgraduate Activities, California Medical Association, 417 So. Hill Street, Los Angeles 13. Madison 6-0683.

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Audio Digest Foundation, a nonprofit subsidiary of the C.M.A., now offers (on a subscription basis) a series of hour-long tape recordings designed to keep the physician abreast of current happenings in his particular field. Composed of practice-useful abstracts from 600 leading journals, with short lectures and editorial comments from prominent physicians, Audio Digest offers programs covering general practice, surgery, internal medicine, obstetrics and gynecology, and pediatrics.

Contact: Claron L. Oakley, editor, 1919 Wilshire Blvd., Los Angeles 57.

Medical Dates Bulletin

JANUARY MEETINGS

Southwestern Pediatric Society, Dinner Meeting, University Club, Los Angeles, January 15, 1958, 6:30 p.m. Guest speaker: Dr. Edmund Keeney, Medical Director, Scripps Clinic and Foundation. *Contact:* Robert G. Shirley, M.D., secretary, 11633 San Vicente Blvd., Los Angeles 49.

Southern California Chapter, American College of Surgeons Annual Meeting, El Mirador Hotel, Palm Springs, January 17, 18 and 19, 1958. *Contact:* Max R. Gaspar, M.D., secretary-treasurer, 211 Cherry Avenue, Long Beach 2.

Los Angeles County Heart Association Second Annual Midwinter Symposium. January 22, 9:00 to 5:00, Golden State Room, Hotel Statler, Los Angeles. *Contact:* Education Section, Los Angeles County Heart Association, 660 S. Western Ave., Los Angeles 5.

Orange County Heart Association 1958 Annual Symposium on Heart Disease, January 25, all day, Disneyland Hotel, Anaheim. *Contact:* Howard G. Buswell, executive director, P. O. Box 1704, Santa Ana.

California Conference on Rural Health Annual Meeting, Bakersfield Hacienda, Bakersfield, January 31 and February 1. *Contact:* Glenn Gillette, California Medical Association, 450 Sutter St., San Francisco 8.

FEBRUARY MEETINGS

Contra Costa County Heart Association Fifth Annual Postgraduate Course for Physicians, February 3 to April 7, 8:00 to 10:00 p.m. Registration fee: $10.00. *Contact:* Mrs. Loyse Casebolt, executive director, 2363 Mt. Diablo Blvd., Walnut Creek.

Butte-Glenn Counties Heart Association 1958 Symposium on Heart Disease, February 5, 8:30 to 5:30 p.m., Elks Club, 330 Wall Street, Chico. *Contact:* Nathan C. Hanson, executive secretary, 310 Main Street, Chico.

Highland Alameda County Hospital Sixth Annual Postgraduate Symposium, "Dynamics of Metabolic and Endocrine Disease," main auditorium, Highland Alameda County Hospital, Oakland, February 17, 18 and 19, 1958. *Contact:* L. W. Kinsell, M.D., director, 2701 Fourteenth Avenue, Oakland 6.

Colorado State Medical Society Midwinter Clinical Session, February 18 to 21, Shirley-Savoy Hotel, Denver. *Contact:* Harvey T. Sethman, executive secretary, 835 Republic Bldg., Denver 2.

California Blood Bank Annual Meeting, Miramar Hotel, Santa Barbara, February 20 to 22. *Contact:* Helen E. Drew, secretary, P. O. Box 1148, Santa Barbara.

Los Angeles Radiological Society Tenth Annual Midwinter Conference, Biltmore Hotel, Los Angeles, February 22 and 23, 9:30 a.m. *Contact:* John H. Eaton, M.D., secretary-treasurer, 65 N. Madison Ave., Pasadena 1.

MARCH MEETINGS

International College of Surgeons 23rd Annual Congress of U. S. and Canadian Sections 11th Biennial International Congress, March 9 to 13, Hotel Ambassador, Los Angeles. *Contact:* J. M. de los Reyes, M.D., general chairman, 2010 Wilshire Blvd., Los Angeles 57.

Southwestern Pediatric Society Annual Lecture Series, March 11 and 12, Statler Hotel, Los Angeles. *Contact:* D. Hovsepian, M.D., program chairman, 960 E. Green St., Pasadena.

California Society of Plastic Surgeons Annual Meeting, March 20 to 22, Del Monte Lodge, Del Monte, California. *Contact:* Benjamin F. Edwards, M.D., 2200 Santa Monica Blvd., Santa Monica.

APRIL MEETINGS

California Tuberculosis and Health Association, California Trudeau Society and the California Conference of Tuberculosis Workers Annual Meeting, Sheraton-Palace Hotel, San Francisco, April 9 through 12, 1958. *Contact:* E. L. Daggett, director public information, 130 Hayes Street, San Francisco 2, HEmlock 1-8771.

Valley Children's Hospital Spring Clinics, April 11 and 12. Roosevelt High School Auditorium, Fresno. *Contact:* Valley Children's Hospital, Fresno.

American College of Obstetricians and Gynecologists, April 21 to 23, Los Angeles. *Contact:* John C. Ullery, M.D., secretary, 15 South Clark St., Chicago 3.

California Medical Association Annual Meeting, Ambassador Hotel, Los Angeles, April 27 to 30. *Contact:* John Hunton, executive secretary, 450 Sutter St., San Francisco 8, or Ed Clancy, director, Public Relations, 417 South Hill St., Los Angeles 13.

MAY MEETINGS

American Psychiatric Association Annual Meeting, May 12 to 16, Civic Auditorium, San Francisco. *Contact:* Alfred Auerback, M.D., 450 Sutter St., San Francisco.

Hawaiian Divisional Meeting, American Psychiatric Association, May 17 to 22, Hawaiian Village, Honolulu. *Contact:* Alfred Auerback, M.D., 450 Sutter St., San Francisco.

Western Branch, American Public Health Association Annual Meeting with Canadian Public Health Association, May 18 to 23, Vancouver, B. C. *Contact:* Mrs. L. Amy Darter, secretary-treasurer, 2151 Berkeley Way, Berkeley 4.

American Laryngological Association, May 19 to 20, San Francisco. *Contact:* James H. Maxwell, M.D., secretary, University Hospital, Ann Arbor, Michigan.

American Broncho-Esophagological Association, May 21 to 23, San Francisco. *Contact:* F. Johnson Putney, M.D., secretary, 1719 Rittenhouse Square, Philadelphia, Pa.

California Heart Association Annual Meeting, Scientific Session and Directors Meeting, Hacienda Motel, Fresno, May 23 to 25. *Contact:* J. Keith Thwaites, executive director, 1428 Bush St., San Francisco.

SUMMER AND FALL MEETINGS

American College of Chest Physicians 24th Annual Meeting, June 18 to 22, San Francisco. *Contact:* Mr. Murray Kornfeld, executive director, 112 East Chestnut St., Chicago 11, Ill.

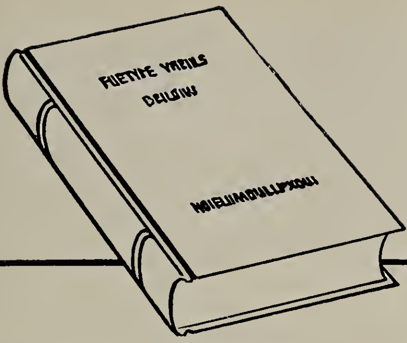
American Medical Association Annual Meeting, June 23 to 27, San Francisco. *Contact:* American Medical Association, 535 North Dearborn St., Chicago 10.

American Proctologic Society, June 29 to July 3, Los Angeles. *Contact:* Norman D. Nigro, M.D., secretary, 10 Peterboro St., Detroit 1, Michigan.

Washington State Medical Association Annual Convention, September 14 to 17, 1958, Spokane, Washington. *Contact:* Ralph W. Neill, executive secretary, 1309 Seventh Ave., Seattle, Wash.

California Society of Internal Medicine Annual Meeting, October 17 to 19, Ahwahnee Hotel, Yosemite. *Contact:* Mrs. Mildred B. Coleman, executive secretary, or Dr. Clyde C. Greene, secretary-treasurer, 350 Post St., San Francisco 8.

American Heart Association Scientific Sessions and Meetings, October 24 to 27, Fairmont Hotel and Civic Auditorium, San Francisco. *Contact:* J. Keith Thwaites, executive director, California Heart Association, 1428 Bush Street, San Francisco 9.



THE PHYSICIAN'S *Bookshelf*

PRACTICAL GYNECOLOGY—Second Edition—Walter J. Reich, M.D., F.A.C.S., F.I.C.S., and Mitchell J. Nechtow, M.D., F.A.C.S., F.I.C.S., J. B. Lippincott Company, Philadelphia, 1957. 648 pages, 248 illustrations, 68 in color, $12.50.

The fact that this book has appeared in a second edition would indicate a degree of popularity which scarcely seems warranted. It is aimed at the general practitioner and supposedly is to aid him in the office practice of gynecology. A statement in the section on acknowledgments at the beginning of the book implies that the text material was dictated to a wire recorder, and presumably much of it was transcribed for the printer without benefit of further editing. The proofreading was done badly, too. The legends for several illustrations are misleading, and there are numerous inconsistencies within the text.

This volume represents almost exclusively the personal opinions of the authors, and a good many of these seem to be at variance with modern gynecologic teaching and practice. Scattered through the text are many italicized warnings to do this or that, or to avoid some dreadful error at all cost, so that one is left with the impression that gynecology is a pretty scary business. Your reviewer suspects, however, that most physicians will not be unduly alarmed by these exaggerations, and will continue to look for guidance in more thoughtful treatises.

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GYNECOLOGIC SURGERY AND UROLOGY—Thomas L. Ball, M.D., Assistant Professor of Clinical Obstetrics and Gynecology, Cornell University Medical College. The C. V. Mosby Company, St. Louis, 1957. 547 pages, 161 full-page plates, $20.00.

At first glance this large volume appears to be an atlas of surgical techniques, but in reality it is a combination of atlas and textbook. It deals with all contingencies in the female pelvis, or what the author calls the regional surgery concept, including lower tract urology and proctology, along with gynecology, and in addition certain facets of general surgery of the abdomen. In order to pursue the regional concept most fully the traditional chapter arrangement of gynecologic texts has been greatly modified. The anatomy of each region is described just ahead of the operative techniques applicable to that particular area.

The text is divided into twelve major sections, starting out with minor surgery and office procedures and ending with obstetrical problems. In between, all of the standard items are dealt with to some extent, the major consideration having been given to tumors and cysts. The surgical procedures are illustrated in 161 full-page pen and ink drawings by Daisy Stilwell. These are beautifully done, show sufficient detail without being cluttered, and are well labeled in large lettering. The steps of each operation are described in detail in numbered paragraphs printed in bold face type for easy reading, and the directions contain numerous references to the illustrative plates.

A fair portion of the book is straight text material without reference to the drawings. Several items not customarily seen in this type of book are included, such as a discussion of the sprained back, a section on the role of the obstetrician and gynecologist in civilian defense, hormonal factors in cancer, and experimental and virus studies in cancer.

A short review cannot possibly do justice to this extensive reference work. In brief, it represents not only the opinions and practices of the author, but also to a large degree the standard accepted procedures in the Department of Obstetrics and Gynecology at the New York Hospital-Cornell Medical Center, which has been one of the major teaching centers for many decades. The volume is recommended to all who associate themselves in any way with surgical procedures in the female pelvis.

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A TEXTBOOK OF HISTOLOGY—Seventh Edition—Alexander A. Maximow, Late Professor of Anatomy, University of Chicago; and William Bloom, Professor of Anatomy, University of Chicago. W. B. Saunders Company, Philadelphia, 1957. 628 pages, 1082 illustrations, 265 in color on 631 figures, $11.00.

There are, I suppose, not many physicians of the English speaking world who are not familiar with Maximow and Bloom's Histology. It has rightly earned for itself a place as a standard textbook and in consequence, like the swallows of Capistrano, we have come to expect the return of a revised edition. Since its inception the cycle has been with utmost regularity a new edition every four years, but in welcoming the new seventh edition we note that it is a year late. This should be, and is, a portent.

It is customary, if not very original, in reviewing a new edition of a well-known textbook, to state wherein it differs from previous editions, what new chapters or illustrations have been added, what new format has been adopted, who are new contributors and whether the new edition continues to maintain the position of the old. Although there are many changes in the new edition, let it be sufficient to say that everywhere there is evidence of careful editorial revision, the introduction of new matter and the deletion of old, and the work certainly maintains and even enhances its former position. But what is more important is that this edition shows most clearly the transition to a new era.

New techniques have increased our analytical powers in the examination of tissues enormously. The electron microscope is revolutionizing the subject to an equal if not greater degree than the compound achromatic microscope revolutionized the position established with the simple lenses of van Leeuwenhoek. To this must be added the histochemical techniques made possible by radioactive and other materials, x-ray microscopy and diffraction methods. The morphological, biophysical and biochemical are beginning to unite to provide new insight into the relationship between structure and function. Everywhere in this new edition the change is apparent. The assimilation of the new is not yet complete, but in reviewing this new edition we are most conscious of the transition to a new era in histological studies.

J. B. deC. M. Saunders, M.D.

PRACTICAL DIAGNOSIS AND TREATMENT OF LIVER DISEASE—Carroll Moton Leevy, M.D., Director of Clinical Investigation, Director of the Outpatient Department Jersey City Medical Center. Paul B. Hoeber, Inc., Medical Book Department of Harper & Brothers, 49 East 33rd St., New York 16, N. Y. 1957. 335 pages, $8.50.

This book is a monograph embodying Leevy's experiences with liver disease. It reports the observations and conclusions of a coordinated hospital and outpatient study for long-term evaluation of patients with liver disease at the Jersey City Medical Center. The author describes what he calls a composite approach to liver disease based on the determination of etiology, clinical status, biochemical function and histopathology. The book shows a deep interest in the broader aspects of hepatic physiology and in the pathogenesis of liver disease. The therapy is as up-to-date as the author's experience.

There are four basic causes of liver injury, each of which produces similar clinical, biochemical, and morphologic changes in the end stages. Nutritional deficiency and metabolic disturbances, noxious factors, biliary obstruction and infection, and circulatory congestion or anoxia may all eventually lead to death of parenchymal cells, inflammation, increased fibroblastic activity, liver cell regeneration, and bile duct proliferation. The degree of injury and host resistance are the major determinants of the ultimate pathologic changes. The major contributing cause of liver disease in Leevy's series of 1,000 patients was nutritional deficiency and metabolic error (680 cases). Infections and toxic agents were the cause in 100, circulatory impairment in 120 and malignancy in 70 cases.

Much of the text and many of the illustrations and extracts in this book are from the author's own work rather than from other significant work in the literature. While there are other books which furnish more complete references and detail to the physician or investigator, this is a sound one and makes good reading for the student or practitioner who wishes to survey the field of liver disease. It can be useful also to other workers who wish to investigate the details of a coordinated patient study.

EDGAR WAYBURN, M.D.

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HEMORRHAGIC DISEASES—Armand J. Quick, Ph.D., M.D., Professor of Biochemistry, Marquette University School of Medicine. Lea & Febiger, Philadelphia, 1957. 451 pages, $9.50.

This is a work by one of the world's most experienced students of the hemorrhagic diseases, and strikes a very acceptable balance between the clinical aspects and the laboratory aspects of these disorders. The experts in this field are an expressive lot and many authorities have contributed such a volume as this in recent years. They are all by and large excellent, but each bears the stigma peculiar to this field; namely, each authority holds concepts and uses terms that are indigenous to his own laboratory. Perhaps this is less a recrimination against the workers in a particular field than against the abstruse nature of the field itself. At any rate, Dr. Quick is no exception to this observation, and uses terms that almost no one else uses. For example, such terms as "prothrombinogen," and "thromboplastinogen" (in the sense of a single entity), are cases in point. There are alternative concepts to the necessity of proposing a prothrombin precursor which received rather scant attention in the text. Another disturbing feature is the expression of achieving a certain hemostatic effect in hemophilia with so many cc. of plasma. One of the chief concerns at the present time in the treatment of hemophilia is, of course, the great variation in antihemophilic globulin content of plasma the hemophilic is likely to receive. It has become apparent that antihemophilic globulin is preserved rather poorly even in the frozen state. Hence, alluding to the proper treatment of hemophilia in terms of cc. of plasma rather than in terms of effective antihemophilic globulin content is unsatisfactory.

Despite some exceptions this reviewer has taken to certain expressions and prejudices in this book, it is well organized and written, and well balanced for the purposes of student, practitioner, and laboratory worker alike.

WILLIAM P. CREGER, M.D.

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EPILEPSY—Grand Mal, Petit Mal, Convulsions—Letitia Fairfield, C.B.E., M.D., D.P.H. Philosophical Library, Inc., 15 East 40th Street, New York 16, N. Y., 1957. 159 pages, $4.75.

This small volume was written by an English physician who has obviously had a great deal of experience in caring for patients with epilepsy. It presents in simple terms almost all of the factual information we have in regard to this symptom and deals clearly and accurately with measures known to be of use in its treatment. Equally, the sociological aspects of epilepsy are considered in a matter-of-fact and nonemotional manner. Her introductory sentence to her chapter on treatment "There is nothing anyone can do for the epileptic so valuable as ridding him of his fits" is characteristic of the author's good sense throughout the book. One might be inclined to take exception to her conclusion that the epileptic on the highway is a very small factor in traffic accidents, but one would agree that the factor was small in relation to the hazards from drunken drivers.

This book can be read with profit by every physician who has an epileptic patient. Equally, it can be recommended to the more intelligent epileptic patient and the parents of patients with epilepsy. Gauged to the British scene, the amount of its insular content is not so great as to reduce its value to American physicians.

HENRY W. NEWMAN, M.D.

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MODERN THERAPY IN NEUROLOGY—Edited by Francis M. Forster, M.D., Dean and Professor of Neurology, Georgetown University School of Medicine, The C. V. Mosby Company, St. Louis, 1957. 792 pages, $12.00.

That a book of almost 800 pages should be written on treatment in neurology should be ample refutation of the claim of many practitioners of medicine that neurology is purely a diagnostic specialty having no treatment potential. The book consists of 18 chapters by as many authors. These are all recognized authorities in their field. As in any such book with a large number of authors there is a certain amount of lack of uniformity in the presentation. This is unavoidable and is probably compensated for by the greater detail which can be provided by authorities in the various fields. The editor has asked his contributors to avoid material other than therapeutic, but where such material is inevitable to present effectively the method of treatment it is set in smaller type. The amount of bibliography varies with the different chapters, but in general is quite adequate.

It is a little hard to see just what class of physician this book would be most useful to. The degree of detail is such as possibly to be oppressive to the internist or general practitioner dealing with an uncomplicated neurological condition, while the neurologist might be expected to be familiar already with the material presented, if qualified to practice in his specialty. Certainly it is not a book to be read through systematically, but rather may find a place as a reference work in neurological treatment.

HENRY W. NEWMAN, M.D.

A TEXTBOOK OF X-RAY DIAGNOSIS—By British Authors—Third Edition—Vol. 1—Head and Neck—Edited by S. Cochrane Shanks, M.D., F.R.C.P., F.F.B., Director, X-Ray Diagnostic Department, University College Hospital, London; and Peter Kerley, C.V.O., C.B.E., M.D., F.R.C.P., F.F.R., D.M.R.E., Director, X-Ray Department, Westminster Hospital; Radiologist, Royal Chest Hospital, London. W. B. Saunders Company, Philadelphia, 1957. 521 pages, 521 illustrations, $18.00.

The third edition of this valuable four-volume textbook of x-ray diagnosis is now in process of completion. The present volume, Volume I, contains no changes in section or chapter headings since the second edition published in 1951. However, there are five new contributors, almost 100 additional illustrations, and approximately 100 additional pages.

As previously, the sections deal with the central nervous system, the teeth and jaws, the eye, the accessory nasal sinuses, and the ear and temporal bone.

The major changes since the second edition are in the chapters dealing with ventriculography, encephalography, and cerebral angiography.

Positive contrast media are illustrated for use in ventriculography of the third and fourth ventricles and the aqueduct. The authors prefer Myodil for this region.

To secure more complete air filling of the ventricular and subarachnoid spaces with encephalography, the authors have apparently modified their former technique in accordance with the recommendations of Lindgren.

The chapter on cerebral angiography is considerably improved, especially in the section dealing with vertebral arteriography.

The work will continue to be of use to radiologists, neurologists, and the many other specialty groups interested in diseases of the head and neck. The edition carries this very appropriate prologue quoted from Macbeth:

> "*. . . the times have been,*
> *That, when the brains were out, the man would die,*
> *And there an end; but now they rise again.*"

L. H. Garland, M.B.

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THE PHYSIOLOGY OF INDUCED HYPOTHERMIA. Proceedings of a Symposium, October 28-29, 1955. Robert D. Dripps, Chairman and Editor. Washington, D. C. National Academy of Sciences, National Research Council, 1956. 447 pages.

A much wider field is covered by this book than its title would lead one to expect. It begins with a series of papers covering the general metabolic effects of hypothermia and continues with its effects on specific areas such as cardiovascular, endocrine, hematologic, renal, hepatic, and nervous systems. Special sections are devoted to myocardial irritability and the clinical applications of hypothermia to neurosurgery, shock, myocardial infarction and cardiac surgery. Finally, the advantages and disadvantages of the various techniques of inducing hypothermia are carefully laid out. It can be seen, therefore, that this book covers the whole field of hypothermia and it has particular value in that at the end of each section of articles there is a summing up of the previous papers, in which inconsistencies are discussed and assessed. This is of special value to the general reader, who might otherwise be carried away by the enthusiasm for one theory or technique. Perhaps the most useful part of the book for the general reader is the series of articles on the effects of hypothermia on the specific systems. These have been exhaustively covered with wide reviews of the previous literature. The conclusions of some of the discussants can be called to question, particularly the enthusiasm for combined hypothermia and extracorporeal circulation, which would seem to incorporate the worst of both worlds.

MESENCHYMAL DISEASES IN CHILDHOOD—22nd Ross Pediatric Research Conference, Ross Laboratories, Columbus 16, Ohio, 1957. 103 pages.

This is the twenty-second of a series of conferences subsidized (but not commercialized) by the Ross Laboratories, each devoted to a single broad topic of current interest and in most instances constituting an authoritative monograph. They have been of notably uniform excellence, which is perhaps not surprising when the expertness of the contributors is taken into account, all of whom speak from firsthand knowledge.

To the present volume, consisting of 104 pages, there are some 39 contributors, under the chairmanship of Vincent C. Kelley of the University of Utah College of Medicine. The term "mesenchymal" was correctly preferred to the more commonly used "collagen" to designate a group of diseases affecting the mesoblastic tissues in general rather than a single constituent of them. Among these are rheumatoid arthritis, systemic lupus erythematosus, dermatomyositis, nephrosis and nephritis, anaphylactoid purpura, and rheumatic fever. All discussions emphasize the newer discoveries, some still in progress; for example, the L forms of bacteria and their possible relation to rheumatoid arthritis, microscopy of the kidney in nephritis, nephrosis and lupus erythematosus which has clarified so remarkably the basic renal pathology of these diseases. General considerations—biochemical, hormonal, infectious, enzymatic, metabolic, psychosomatic—are dealt with concisely and effectively. A final presentation of the serious complications of steroid therapy is pertinent.

This monograph will be of interest and value not only to pediatricians but also internists, general practitioners and others desiring to bring their information up to date on an important group of diseases.

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BENJAMIN WATERHOUSE AND THE INTRODUCTION OF VACCINATION: A Reappraisal—John B. Blake, University of Pennsylvania Press, Philadelphia, 1957, 95 pp., $4.00.

John Blake, assistant historian of the Rockefeller Institute, notes that although Waterhouse has generally been given great credit and honor for the introduction of vaccination in the United States, he was not so highly regarded at home, in his own day. His reputation was built up mainly in later years by authors whose principal sources were Waterhouse's own words.

Blake examines additional source materials, both correspondence and newspaper files. While giving full credit for Waterhouse's contributions to the dissemination of vaccinia, he shows him as an egotist who not only sought to inflate his own reputation at the expense of others, but also attempted to establish a monopoly in vaccination for his personal profit.

While one has the feeling that in his effort to set the balance straight, Blake may have painted Waterhouse in tones too black, he certainly makes it clear that the picture of an inspired pioneer struggling for mankind against a reactionary and venal medical profession is not wholly true. Our understanding of progress in medicine and public health is enhanced by this book.

Whether or not the reader is interested in the meanings of history for the guidance of today's decisions, he will enjoy this well written, handsomely printed story of a heated controversy, and the portrayal of professional life at the beginning of the nineteenth century. He also may find some consolation for his distress about the handling of recently introduced immunizing agents, observing that in the present day, we are at least not worse than our forebears of 1800.

Rodney R. Beard, M.D.

CLINICAL TOXICOLOGY—The Clinical Diagnosis and Treatment of Poisoning—S. Locket, M.B., B.S., M.R.C.P. (London), Senior Physician, Oldchurch Hospital, Romford, Essex. The C. V. Mosby Company, St. Louis, 1957. 772 pages, $20.00.

It is unfortunate that the author of such a fine work exhibits a lack of understanding of sources of information in other books, or the presence of other books written by clinicians of experience, when he writes in the preface, "My reasons for writing this book are relatively simple. A modern book covering this section of clinical practice was a necessity. Since such a book did not in fact exist it became necessary to write one. There are practically no books on clinical toxicology written by physicians in active clinical practice. Sections on toxicology in various textbooks or tomes on toxicology by laboratory workers, biochemists, pharmacologists, public health officers, pathologists and forensic pathologists are frequent. . . . The majority of these writers have never treated a sick patient and certainly not in the past few decades, yet most of them advise on treatment. Many of these writers do not even possess a medical qualification, yet all advise on the best treatment for poisoning.

"Unfortunately, the treatment of a patient in practice (like all other skilled technical procedures) is far different and far more difficult than a few casual words written in a book or journal. The correct treatment of the sick requires considerable clinical experience over and in addition to book knowledge, and the most effective treatment for any condition can only be decided by a clinician who has experienced the disappointments and successes that clinical practice can produce."

The true justifications for this book are (1) the author's extensive experience and knowledge, (2) the paucity of such books by British authors, (3) the willingness of the author to write a more extensive treatise than most other books on the subject of clinical toxicology. The book is written with the bias of the clinician responsible for the diagnosis and care of the patient. The author exhibits not only the qualities of a careful clinical observer, but a familiarity with an extensive literature on poisoning.

The plan of the book indicates that it is intended for the practitioner rather than for the student. For example, Part I is a seven-chapter discussion of treatment in relation to the presenting symptoms and pathology. A book for students should first discuss individual poisons or groups of similar poisons, from all aspects, before outlining the principles, for principles cannot be understood without a knowledge of factual data upon which principles are founded. Part II is entitled "Symptoms and Treatment Described for Individual Poisonous Agents" and consists of seventeen chapters in which drugs and poisons are grouped in part according to pharmacological effect and in part according to physical or chemical properties (chapter VIII, Toxic Gases; chapter XXI, Arsenic, Antimony, Bismuth, Phosphorus, Lead). Vegetable and Plant Poisons are grouped into three chapters (chapters XV, XVI, XVIII) without regard to action. In the first of these chapters are collected vegetable-derived drugs of known composition, many of which are used as drugs, such as atropine, scopolamine, physostigmine, protoveratrine, ergotamine and tubocurarine, but which are not a homogeneous pharmacological group. Also included in this chapter are many synthetically produced drugs related chemically or pharmacologically to the naturally occurring drugs; e.g., methantheline, carbachol, neostigmine, lysergic acid diethylamine and decamethonium. There are also described plant-derived poisons of known chemical composition not used as drugs, and some of their synthetic analogues which are therapeutic agents; e.g., nicotine and hexamethonium. The second of these three chapters includes poisons, which cause gastrointestinal disturbance, such as the laxatives aloe, castor oil, colchicine, and ipecac. A discussion of digitalis and other cardiotonics, cyanogens and milk sickness make up most of the third chapter. Chapter XVIII is devoted to animal poisons having a variety of actions such as venoms of snakes, black widow spider and jellyfish. There is no discussion of the stingray which causes so many injuries in Pacific waters.

Part III contains two chapters on identification of poisons. In the first chapter is a thoroughgoing description of qualitative and quantitative methods for alcohol, barbiturates, salicylates, and lead. Identification of mercury and the determination of serum cholinesterase are inadequately described. The second chapter is one rarely found in a textbook on toxicology, namely "Identification and Botanical Characteristics of Some Poisonous Plants." This chapter is especially helpful for those cases who have ingested poisonous plants whose active principles cannot be readily recognized. One looks in vain for methods of identification of strychnine, morphine, nicotine, phenol, arsenic, chloral hydrate and many other common poisons.

This is a useful book, and in sections a superior book but its classification, scientific approach and chemical discussions leave much to be desired.

CLINTON H. THIENES, M.D.

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A WOMAN DOCTOR LOOKS AT LOVE AND LIFE—Marion Hilliard, M.D. Doubleday and Company, Inc., 575 Madison Avenue, New York 22, N. Y., 1957. 190 pages, $2.95.

This very readable book started as a series of magazine articles. These consisted of subjects which this author found worried her women patients and caused them to seek medical advice. From adolescence on through old age, the many problems of living are discussed philosophically and with great insight. For example—her bit of advice to adolescents: "The most vital piece of wisdom that I can tell you about is the inevitability of life. Each act is followed without fail by a consequence. True responsibility can only come from your own inner discipline." Or, to husbands: "Some husbands give nothing to a marriage but bread, which sustains life, but not joy." Or fatigue: "Some fatigue is caused by too much to do and some by too little; some is a by-product of glandular change and some is the result of monotony or pure selfishness." And on "Old Age": "Age worn with dignity and charm is a delight."

The twenty-five years which Dr. Hilliard spent in practice and as chief of obstetrics and gynecology with a Women's College in Toronto, Canada, together with her understanding of living with all its problems gives us a book, which is profitable reading for all ages and both sexes.

* * *

REGULATION AND MODE OF ACTION OF THYROID HORMONES—Ciba Foundation Colloquia on Endocrinology—Volume 10—G. E. W. Wolstenholme, O.B.E., M.A., M.B., B.Ch., and Elaine C. P. Millar, A.H.-W.C., A.R.I.C., Editors for the Ciba Foundation. Little, Brown and Company, Boston, 1957. 311 pages, 114 illustrations, $8.50.

In June, 1956 under the sponsorship of the Ciba Foundation, an international group of 32 physiologists, anatomists, biochemists, enzymologists and endocrinologists gathered for a three-day discussion of the present concepts of the regulation and mode of action of thyroid hormones. The 18 papers presented, as well as the text of the discussions, comprise the contents of the book.

The papers varied from preliminary reports of work in progress to comprehensive dissertations. The papers on Hypothalamus-Pituitary-Thyroid relationships, by Drs. G. W. Harris and J. W. Woods, from Maudsley Hospital, London, and by Dr. M. A. Greer from the Veterans Administration

Hospital, Long Beach, California, were particularly lucid, and presented clearly the basis for the present concept of the hypothalamic control of anterior pituitary function.

Several papers dealt with the metabolism of thyroid hormone by peripheral tissues. The report by Dr. O. Thibault, from the University of Paris, was an excellent presentation of both original work and the work of others indicating that peripheral tissues can convert the thyroid hormones, thyroxine (T4), and tri-iodothyronine (T3) into their acetic acid derivatives, tetraiodothyroacetic acid (TETRAC) and tri-iodothyroacetic acid (TRIAC) which may be the active forms of the hormones at the cellular level. Clinical studies with TRIAC presented by Dr. W. R. Trotter from University College Hospital Medical School, London, suggest that orally administered TRIAC may have a more immediate effect on lowering blood cholesterol than it does on raising the BMR. This property, if substantiated, may have considerable clinical application in problems of hypercholesterolemia.

The discussions following each paper were, on the whole, disappointing. One had the feeling that these were carefully edited so that all controversy was eliminated. A few of the discussors contributed valuable additional data and critical comment, but for the most part, the discussions were rather sterile.

In general this is a "progress report" of work on thyroid physiology now in progress. From this symposium one can gain a glimpse of the nature and direction of present research on the control and function of the thyroid gland.

FRANCIS S. GREENSPAN, M.D.

* * *

THERAPEUTIC EXERCISE—For Body Alignment and Function—Marian Williams, Ph.D., Assistant Professor of Physical Therapy, School of Medicine, Stanford University, and Catherine Worthington, Ph.D., Director of Professional Education, The National Foundation for Infantile Paralysis, Inc., W. B. Saunders Company, Philadelphia, 1957. 127 pages, $3.50.

This is a manual developed by the authors for use by physical therapy students. Three major topics are covered: an analysis of body alignment, the rationale and description of exercises for various areas of the body, and a diagrammatic anatomical review of the major muscles of the body and their kinesiology.

It is well illustrated by line drawings showing pictorially the accompanying subject matter so that physicians and others unaccustomed to reading exercise instructions can easily follow the text. A rather thorough description is given of the various maneuvers by which the patient can mobilize the various segments of his body and strengthen muscles by calisthenics designed to use gravity as a resistance mechanism. Such exercises are usually taught as a home program to patients.

This book is useful mainly for physical therapists and students in corrective physical education though it warrants a perusal by orthopedists, physiatrists, and other physicians handling cases with musculoskeletal problems.

* * *

MAY'S MANUAL OF THE DISEASES OF THE EYE—For Students and General Practitioners—Twenty-second Edition—Revised and Edited by Charles A. Perera, M.D., Associate Clinical Professor; College of Physicians and Surgeons, Columbia University. The Williams and Wilkins Company, Baltimore, 1957. 518 pages, $6.00.

This book has long been the eye Bible of the beginner in ophthalmology, but especially of the medical student and the general practitioner.

In the present revision, some of the obsolete material has been deleted, and it now includes the presently accepted concepts of eye diseases. It also describes the place of the corticosteroids in ophthalmology and contains an evaluation of the antibiotics. The picture of retrolental fibroplasia and allied conditions are discussed in light of our recent knowledge.

It is particularly noteworthy that Dr. Perera, in keeping the book up-to-date with the various editions, has not destroyed the interesting, practical and attractive original format.

The printing, illustrations and paper are excellent.

The book, which has gone through 22 American editions, has been translated into nine languages and is still the most important reference on ophthalmology of the medical student and general practitioner.

FREDERICK C. CORDES, M.D.

* * *

ABSTRACTS OF SOVIET MEDICINE—Part A—Basic Medical Sciences, Vol. 1, 1957, No. 1. Part B—Clinical Medicine, Vol. 1, 1957, No. 1. Excerpta Medica Foundation, New York Academy of Medicine Building, 2 East 103 Street, New York 29, N. Y. Part A, $15.00; Part B, $15.00; Combined subscription, Part A and B, $25.00.

A grant of the National Institutes of Health, U. S. Department of Health, Education and Welfare to the Excerpta Medica Foundation has made possible the publication of Abstracts of Soviet Medicine in two parts: Basic Medical Sciences and Clinical Medicine, of which Volume I, No. 1 of each part have been published. Thus a large body of medical and scientific literature will be brought to the attention of those who read English but not Russian. The format is identical with that of the other divisions of Excerpta Medica. The material is drawn from the Medicinskij Referativnij Zhurnal (Soviet Medical Abstracting Journal) and from abstracts prepared under the supervision of a group chosen from the USSR Academy of Medical Sciences, Moscow. The titles of all articles abstracted are translated into English and the abstracts are in English. The whole material is translated, edited, supervised and indexed by Excerpta Medica's editorial board in Amsterdam, the Netherlands. The Foreword to the first number of each part states that "the primary object of this far-reaching project is to assist in the creation of the final essential link in the interchange of medical information on a truly global basis."

CLINTON H. THIENES, M.D.

* * *

THE ELECTROCARDIOGRAM—Its Interpretation and Clinical Application—Second Edition, Revised—Louis H. Sigler, M.D., F.A.C.P., F.C.C.P., F.A.C.C., Attending Cardiologist and Chief of Cardia Clinics, Coney Island Hospital, etc., Grune & Stratton, New York, 1957. 312 pages, $8.75.

This book is an elementary account of electrocardiography which discusses in a reasonably competent manner most of the patterns necessary for interpretation. This new second edition has very little up-to-date material, and most of the bibliographies at the end of each chapter have references prior to 1945. The chapter on ventricular hypertrophy is an exception.

There is an inadequate discussion on electrocardiographic changes due to imbalance. The section on congenital heart disease is extremely meager with no bibliography despite the fact that it is in this area that many advances have been made.

The section on premature contractions is quite good.

In general, the reviewer finds little evidence that new material is included in the second edition. In view of the excellent, up-to-date books on electrocardiography now available, the reviewer sees no outstanding distinguishing features of this book.

THE IMPORTANCE OF OVERWEIGHT—Hilde Bruch, M.D. W. W. Norton & Company, Inc., New York, 1957. 438 pages, $5.95.

OBESITY—Its Cause, Classification, and Care—E. Philip Gelvin, M.D., Associate in Medicine, and Thomas H. McGavack, M.D., Professor of Clinical Medicine, both New York Medical College, Flower and Fifth Avenue Hospital, New York. Hoeber-Harper Book, Paul B. Hoeber, Inc., 49 East 33rd St., New York 16, N. Y., 1957. 146 pages, $3.50.

The "philosophy of complementarity" is a concept which has come from modern physics. As developed by Niels Bohr and explained by Max Born in a recent *Bulletin of the Atomic Scientists* (13:186-194, June, 1957), it acknowledges that "There are many domains of human thought where one and the same fact can be seen from different, but complementary aspects. For instance, in biology, physicochemical methods are used for the investigation of living organisms, but no biologist would refrain from describing the processes of life in an entirely different language, which operates with concepts such as purpose, order, development, etc. Both ways of expression may be used side by side as long as one is aware of the limits of their validity." Such complementary descriptions "provide a true image of the world only when they are combined."

With the two new books on the subject of "Overweight" and "Obesity" which are the subjects of this review, we have been presented with a nice example of this phenomenon within the field of clinical medicine. It is hard to imagine two authoritative books agreeing essentially on the area and known facts of the same subject, which could differ more in the general feel of the message they convey in regard to it. Even within themselves, each book makes a many faceted approach to the problem at hand. But the intent and the emphases differ.

Dr. Bruch's book is an intriguing and personal review of the development of twentieth century thought with regard to obesity. Its opening and closing chapters deal with the formulation of a point of view which the substance of the volume elaborates and supports. Its unique value comes from two facts. First, the author, herself, has kept pace with and in large measure paced the changing ideas she describes. Second, the long time follow-ups, some for over twenty years, and the detailed case studies all document the complexity of the problems she propounds.

Dr. Bruch's interest in obesity dates from her coming to the United States from Europe in 1934, when she was "startled by the large number of fat children" she saw here. Starting with the careful physiologic studies which were among those that exploded the then current ideas about obesity as a deficiency disease, she demonstrated, to her own surprise, that most obese children were not "hypo" in any way, but rather were both tall and accelerated in their growth and maturation. "In the course of this study, largely because of the questions that were raised by the work itself, I changed my medical specialty from pediatrics to psychiatry and psychoanalysis."

As a psychiatrist, Dr. Bruch delineated the now familiar concepts of obesity as a neurotic symptom—a concept which has found an acceptance which is wider than it is profound. Meanwhile, Dr. Bruch has moved around the physiological-psychological circle into the area where she is again greatly curious about newer observations which suggest possible subtle "changes in the biological and metabolic reaction patterns of the obese." "No such inherent differences have yet been demonstrated in obesity, but there is every reason to assume that they exist."

The book is a brilliant presentation of obesity "as an integral part of growth and development . . . It is a symptom, not a disease; and it cannot and should not be removed until after the underlying disturbances are corrected." It gives vivid support to the author's admonition that "only those overweight people who are emotionally well enough to carry it through should undertake a reducing regime."

Drs. Gelvin and McGavack are no less aware of the complexity of their subject than is Dr. Bruch. Their systematic review of the available clinical, physiologic and psychologic data concerning the etiology of obesity comes to the conclusion that no genetic metabolic or endocrine factors have yet been shown to be responsible for the energy imbalance which is the immediate cause of obesity. But they also suggest the possibility that a combination of still undiscovered physical factors may yet be demonstrated as contributing to the ultimate cause.

Having finished with these theoretical considerations and acknowledged the difficulties of neurotic and noncooperative patients, the authors turn resolutely to the practical management of obesity in patients who will cooperate. Considerations in this area are thorough and practical. On the basis of their private and clinic practice, the physicians discuss the psychological factors of the patient, the role of the doctor and the recommended details for his behavior. Then they discuss in successive chapters, the possibilities of increasing energy output, the various kinds of diet, and the uses of anorexigenic agents, endocrine preparations, miscellaneous medications, physiotherapy and operation. In each of these chapters their recommendations fit with tested medical opinion. The authors see the period of weight reduction as an educational, as well as a therapeutic experience. They are in favor of the adequate, balanced, low calorie diet as against any of the crash programs; in favor of specific and time limited use of appetite depressants, against many of the drugs and drug combinations now in use. They end with an account of the course and follow-up of patients. The data they present deal almost entirely with short term (up to 40 weeks) results of cooperative patients, although there is a good discussion of the importance of helping the patient to maintain his new weight status over time.

Perhaps it is clear from the foregoing, that these two books not only differ from each other; in a sense they supplement each other. The strength of Dr. Bruch's volume is in its depth, its breadth, its rich portrayal of the complexity of the problems involved and in its warning against a too aggressive approach to obesity. Any weakness lies in its practical recommendations which are confined to one brief chapter. These are actually somewhat overindulgent of asceticism and faddishness in dieting, in tacit deference to the neurotic aspects of the basic problem of overeating. They are also more nihilistic than most experience warrants with regard to simple programs and anorexigenic agents.

By contrast, the weakness of the book is in its theoretical dissertation which is adequate but pedestrian, and in the unquestioning acceptance of the benefits of weight reduction. Its strength is in its detailed presentation of a program which is "safe, effective, and consistent with principles of good nutrition, yet simple for the physician to prescribe and convenient for the patient to observe."

Probably some of these contrasts depend on the circumstance pointed out by Dr. Bruch: As a psychiatrist, she sees the cases with whom the common sense approach of the physician has failed. Fortunately, each book devotes most of its pages to its strongest phases.

Anyone who is concerned with the treatment of obesity would do well to study both these timely volumes. Dr. Bruch's book will greatly enlarge the physician's understanding of the patients who confront him, and will help him decide when *not* to disturb their overweight. In dealing with those he decides to treat, he can confidently turn to the small volume of Gelvin and McGavack for clear cut instructions on what to expect and how to proceed. Both books have excellent bibliographies.

LEONA M. BAYER, M.D.

American Medical Association Not Alone in Fighting Forand Bill

The American Medical Association is not standing alone in its fight against the Forand bill, now pending in Congress, which would provide hospitalization and medical benefits under the Social Security program.

The General Electric Company recently sent a letter to all of its employee relations managers, urging them to do everything possible in their local areas "in preventing a collective approach to medicine through government action. . . ."

The letter is written by Mr. E. S. Willis, representing public and employee relations services of the General Electric Company. Because it is informative to physicians who are lining up against this legislation, the letter is being reproduced with this issue of the Secretary's Letter.

Physicians are urged to read this well-written letter because it presents an exceptionally strong case against the Forand bill.

The General Electric letter follows in full:

As a part of a small group representing the National Association of Manufacturers, I had an opportunity this past week to meet with officials of the American Hospital Association to help express to them the views of industry concerning the position we felt was sound and the position which we hoped American Hospital Association would take with respect to an amendment of the Social Security Act proposed by H.R. 9467, introduced by Representative Aime Forand of Rhode Island. (This bill is also known as the "AFL-CIO" bill.)

Under the Forand bill it is proposed that all persons over 65 who are eligible to receive Social Security benefits (whether or not they are receiving them) will be eligible for 60 days of hospitalization in any twelve-month period, full hospital extras and surgical expense reimbursement.

In order to make this proposal palatable to some, such as the American Hospital Association and the Blue Cross, the bill provides that the administration of these benefits could be carried on through a nonprofit organization (i.e., Blue Cross). It is our belief that there is unfortunately, some support for the Forand bill among the leadership of the American Hospital Association simply because they feel that there are deficits in hospital operation due to the care of the medically indigent over age 65. They apparently feel that they should be reimbursed for this care and it seems to them that the Forand proposal with government reimbursement does the job in a satisfactory manner. The importance of the position of the American Hospital Association cannot be underestimated in connection with this legislation.

Therefore, we felt that it was important to advise you of this meeting because (1) we believe that the

(Continued on Page 62)

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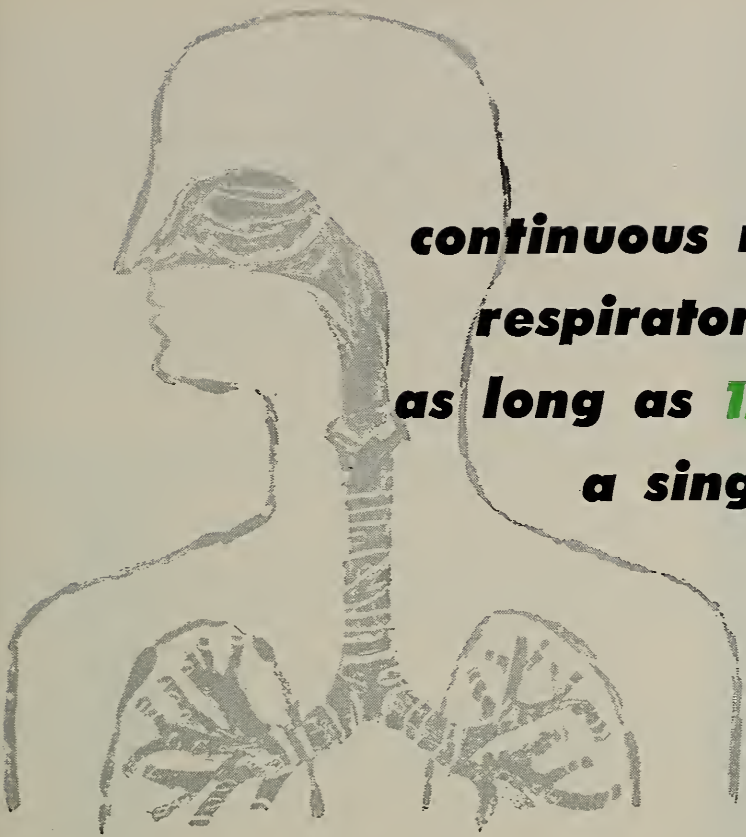
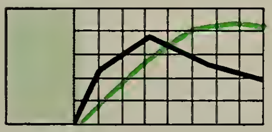


continuous relief of respiratory congestion for as long as **12 hours** with a single dose



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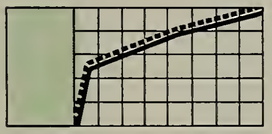

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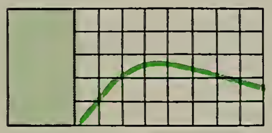

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Chloroform (approx.)	13.5 mg.
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Supplied in pint and gallon bottles.

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American Medical Association Not Alone in Fighting Forand Bill

(Continued from Page 59)

possible position of the American Hospital Association leadership may not represent the actual thinking of the local hospitals and particularly the businessmen trustees of such hospitals and that you might want to inform these trustees, where feasible, about the situation and the dangers in the Forand bill and (2) because we hoped you would be interested in helping to develop certain important facts described below which would shed light on the problem with respect to the operation of the local hospitals in your areas—those hospitals with whom you maintain close enough relations to obtain such facts.

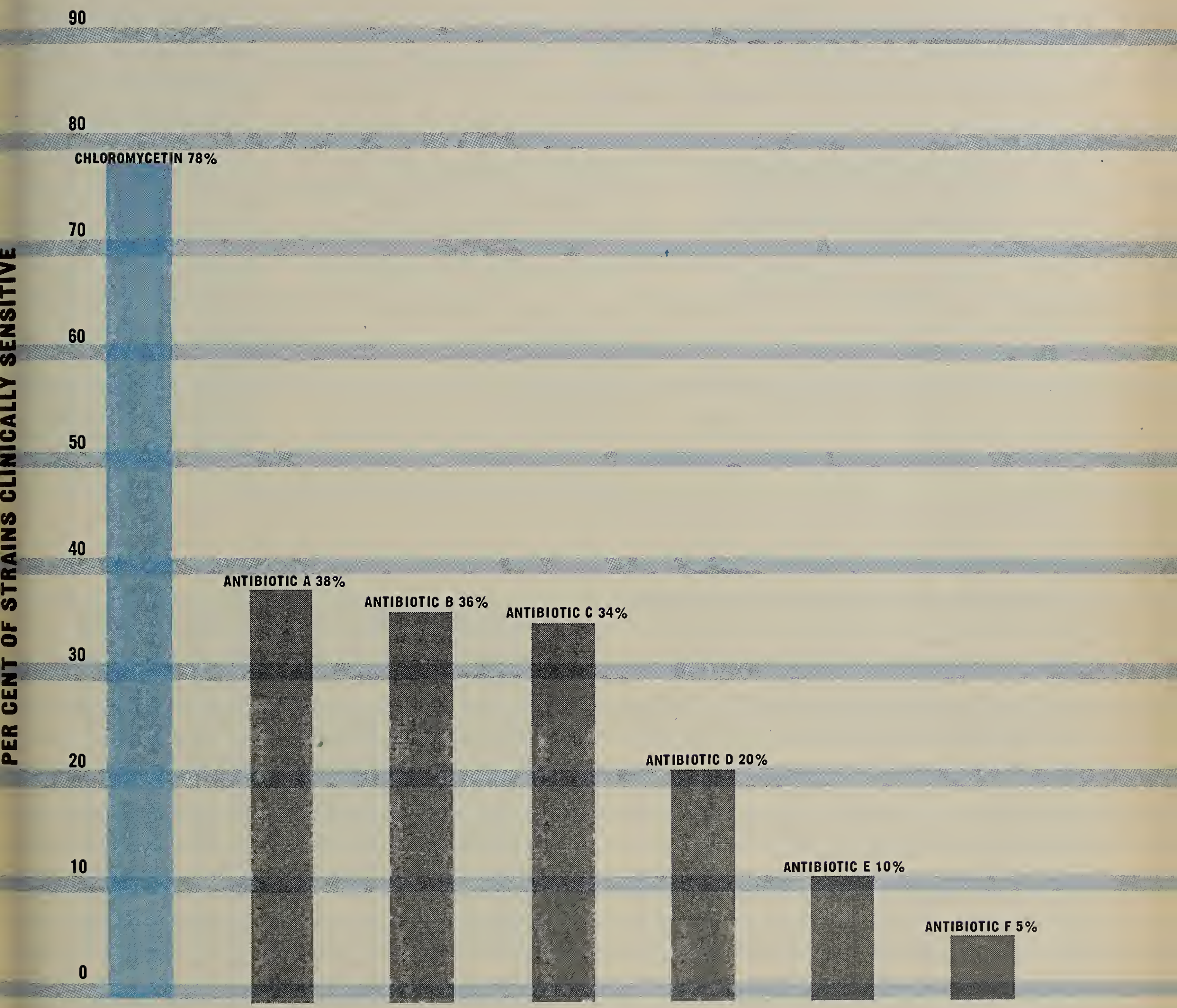
First of all, though not necessarily in order of importance, it would seem that any *deficit* now being incurred by the hospitals because of older persons does not represent a substantial enough portion of the hospitals' expenses to warrant such drastic action as is proposed. This is especially true because the voluntary health insurance plans now cover such a high proportion of the population that the *collection* problems of the hospitals have been substantially reduced to the point where only a relatively small segment enter hospitals without some sort of prepayment protection. Secondly, of course, many retired persons have savings and other assets which were built up looking forward to possible emergencies of this type.

In the third place, while it is recognized that hospital medical expenses for retired people are two to three times as expensive as for active employees, an increasing number of pensioners *are* being covered by insurance plans for hospital and surgical and even medical expenses as insurance companies and industry gain more experience in this area. Many companies, like General Electric, have a program for helping to pay for medical costs of pensioners after retirement. One insurance carrier reports that 56 per cent of the people included in group contracts which they have underwritten are eligible for some sort of post-retirement coverage. This is typical of many other carriers. Blue Cross provides hospital coverage for retired people although the expensiveness of the coverage for the aged, especially when it has no built-in controls, is one of the reasons why Blue Cross is currently running into some financial difficulties throughout the country. In any event, there is a great deal of expansion in coverage for older people and an increasing number of individuals are becoming eligible for such coverage.

In the fourth place, in addition to the normal resources which many retired individuals have through their own earnings, families of such individuals are in many cases able to provide material assistance in times of emergency. It would certainly

(Continued on Page 76)

COMPARATIVE SENSITIVITY OF MIXED PROTEUS SPECIES TO CHLOROMYCETIN AND SIX OTHER WIDELY USED ANTIBIOTIC AGENTS*



*This graph is adapted from Waisbren and Strelitzer.[15] It represents *in vitro* data obtained with clinical material isolated between the years 1951 and 1956. Inhibitory concentrations, ranging from 3 to 25 mcg. per ml., were selected on the basis of usual clinical sensitivity.

Oil of Wintergreen Poisoning Treated by Blood Exchange

A 20-month-old boy who swallowed oil of wintergreen was successfully treated by exchanging his blood twice within a short period, three Chicago doctors reported.

Oil of wintergreen (methyl salicylate) is a highly poisonous substance. In fact, a teaspoonful supplies enough salicylate to endanger the life of any infant or small child, the physicians said in the November 23 *Journal of the American Medical Association.* Oil of wintergreen may be used in small quantities as a flavoring agent, or as a liniment.

Their experience with this youngster emphasizes the value of exchange transfusions as a way of treating this type of poisoning, the doctors said. It has rarely been done before.

The boy was first seen at Children's Memorial Hospital, Chicago, at 8 a.m. November 13, 1956, 22 hours after he had swallowed an unknown amount of oil of wintergreen. He was unconscious, feverish, and had a mild twitching of both arms and legs.

He was first given fluids intravenously, an injection of phenobarbital, and whole blood. When he did not respond, it was decided to do an exchange blood transfusion—in which all the boy's blood was replaced.

After exchanging all of his blood once, he still did

(Continued on Page 72)

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Asst. Chief of Staff

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GEORGE KOWALSKI, M.D.
Staff Physician

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Basic Principles in General Surgery, Two Weeks, April 7
Treatment of Varicose Veins, March 3, April 7
Gallbladder Surgery, Three Days, March 31
Surgery of Hernia, Three Days, April 3
General Surgery, Two Weeks, May 5; One Week, February 10
Fractures & Traumatic Surgery, Two Weeks, March 17
Breast & Thyroid Surgery, One Week, May 5

GYNECOLOGY & OBSTETRICS:
Office & Operative Gynecology, Two Weeks, March 17
Vaginal Approach to Pelvic Surgery, One Week, March 10
General & Surgical Obstetrics, Two Weeks, February 24

MEDICINE—General Review Course, Two Weeks, May 12
Electrocardiography & Heart Disease, Two Weeks, March 17
Gastroscopy & Gastroenterology, Two Weeks, March 3
Hematology, One Week, June 2
Gastroenterology, Two Weeks, April 14

PEDIATRICS—Two-Week Intensive Course, April 21

DERMATOLOGY—Clinical & Didactic Course, Two Weeks, May 5

RADIOLOGY—Diagnostic X-Ray, Two Weeks, March 3
Clinical Uses of Radio Isitopes, Two Weeks, May 5

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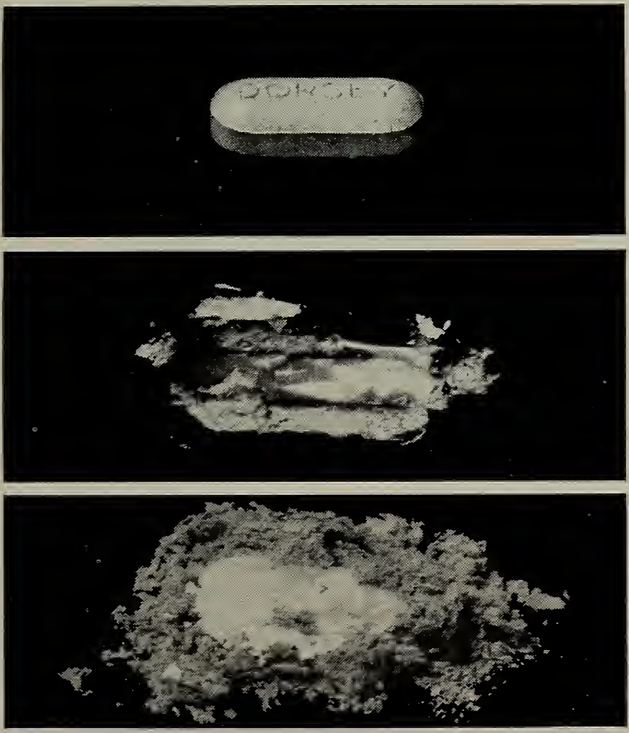

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All Buffered Pabirin is sodium and potassium free

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References: 1. Report of Joint Committee, Medical Research Council & Nuffield Foundation, Treatment of Rheumatoid Arthritis, British Medical Journal (May 29) 1223-1227, 1954. 2. ibid. (April 13) 847-850, 1957. 3. Hart, D.; Bagnall, A. W.; Bunim, J. J., and Polley, F. H.: Ninth International Congress on Rheumatic Diseases, Toronto, Ont. (June 25) 1957. 4. Lewis, L., *et al.*: Ann. Int. Med. *39*:116, 1953. 5. Demartini, F., *et al.*: J.A.M.A. *158*:1505, 1955. 6. Segaloff, A.: Ann. Allergy *12*:565, 1954. 7. Kern, R. A.: Am. J. M. Sc. *233*:430, 1957.

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Oil of Wintergreen Poisoning Treated by Blood Exchange

(Continued from Page 66)

not respond. He was given nearly enough blood to replace his total amount a second time. Then he began to cry out at any movement of his arms, legs, or head. His blood pressure and pulse rates rose.

He was given fluids intravenously for 31 hours. By then he was able to sit up and feed himself. By the third day he had completely recovered from the poisoning. Examination a week later showed no after effects.

The authors noted that oil of wintergreen contains 90 per cent salicylate, the same substance found in lesser amounts in aspirin. Between January 1950 and December 1956, they saw three patients, including this boy, with methyl salicylate poisoning. The other two died.

The gastrointestinal absorption of the drug is rather rapid and causes excitation of the central nervous system, fever, nausea, vomiting, dimness of vision, occasional diarrhea, generalized convulsions, and coma. Death results from respiratory failure after a period of unconsciousness.

The authors are Drs. Julius T. Adams and John A. Bigler, Chicago, and Orville C. Green, Evanston, Illinois.

C.M.A. Annual Session
Los Angeles
April 27-30, 1958

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Information upon request.
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Controls useless cough without impairing expectoration

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each ANTIVERT *tablet contains:*

Meclizine (12.5 mg.)
to ease vestibular distention

Nicotinic Acid (50 mg.)
for prompt vasodilation

Dosage: one tablet before each meal. In bottles of 100 blue-and-white scored tablets. Prescription only.

ANTIVERT in geriatrics
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American Medical Association Not Alone in Fighting Forand Bill

(Continued from Page 62)

seem to be most undesirable to discourage people from providing for their own future care and discouraging their families from considering that they have a responsibility for their parents. Certainly this responsibility is a small sacrifice to pay for the free practice of medicine.

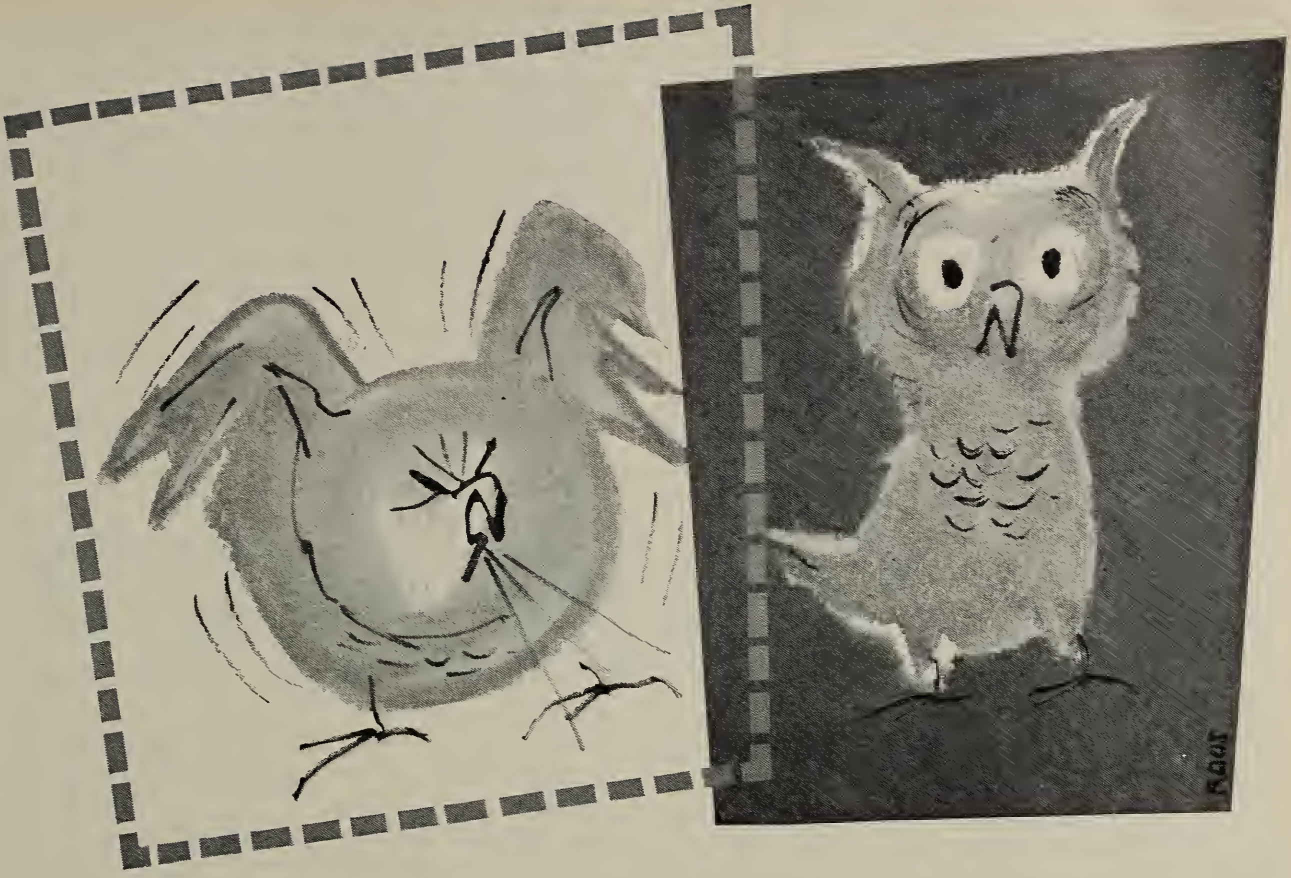
Fifth, the number of persons over 65 is actually only about 9 per cent of the total population. Of this small group, those who are medically indigent represent presently at the most a third of those over 65 and even these are eligible for assistance on a local basis, which permits a more effective determination of the deserving cases. The statement is made today that by and large the medical profession and the hospitals are providing adequate service for all who seek their assistance, regardless of their means. Some data indicates that as high as 70 per cent of those over 65 have no debts and 44 per cent reportedly have assets over $1,000. In fact, nearly ⅔ also own their own home and 1/6 earn over $4,000 a year. Thus it can hardly be said that a large share (of a small segment of the population) are without any means!

While the above points are only brief generalizations of the situation, it seems to us that the real facts of the case as to the impact of the medically indigent over age 65 on hospital operation can best be determined at the local level. Apparently there is little data now available. We would like to ask you to try and obtain some information of a significant character where you have close enough connection with a hospital or hospitals in your locality so as to find out how large the problem actually is. We would appreciate very much having you inquire from local hospitals and sending us the data that you can gather with respect to *uncollectable hospital bills* particularly for those over 65. We feel that compared to a few years ago the size of the problem is minimum.

If possible, we would like to know what percentage of the cost of hospital operation is represented by the medically indigent (the expenses defrayed *by* the hospitals in the form of uncollectable bills—not even paid for by public or government agencies). If the data is available it would be valuable to note what proportion of the total uncollectable bills are attributable to those 65 or over and, of course, if all this information were available for comparison purposes in a few representative earlier years, it would be most helpful.

We can all recognize that the problem of paying for hospital care for aged individuals is important but it is one that is now in the process of being solved through the present voluntary efforts of companies like ourselves and other employers and

(Continued on Page 80)



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a non-soporific antihistamine

NEPERA

American Medical Association Not Alone in Fighting Forand Bill

(Continued from Page 76)

through the carriers, both the Blue Cross and the insurance companies. We are of the opinion, therefore, that there is certainly no reason to feel that an emergency suddenly exists which requires a solution by compulsory federal legislation.

It is obvious that if federal legislation of this kind were resorted to, the Forand bill would only be the "nose of the camel." Before long the camel would be in the tent because the government would not permit for long a nongovernmental organization (such as Blue Cross) to administer the benefits. It is also obvious from the experience we have had with the Social Security law to date that the next move would be to extend hospital-surgical and other benefits to age 50 (when payment for disability benefits now begins in Social Security), and then finally for everyone. (As an initial step some proponents would have the Social Security program contribute at first only the difference between the hospital cost of caring for older persons and the hospital cost which a younger active employee would normally incur. This is the nostril in camel's nose!)

It will be recognized, of course, that the unions are exerting great pressure in this area for the government to take over with a national health insurance scheme. For example, Walter Reuther as recently as September 26 stated "I think it can be said fairly that while medical societies may have entered prepayment reluctantly in order to avert government medicine, labor entered voluntary health insurance reluctantly because a government program was not available." The labor organizations who do seem to exert considerable pressure on Blue Cross and perhaps on American Hospital Association can be expected to do all they can to assure the passage of the Forand bill and attempt to obtain the support of American Hospital Association as a step towards their goal of "National Health Insurance."

In passing it might be noted that the American Medical Association will vigorously contest the extension of government into the private practice of medicine. The rest of us who are interested in preventing a collective approach to medicine through government action will also want to preserve this important stronghold in our economy of the private insurance plans and private hospitals.

We can hope that the board of directors of hospitals generally include businessmen and others who are vitally concerned with the preservation of the nonfederalized practice of medicine and the avoidance of governmental domination. We think that individuals on the boards of directors of the hospitals

(Continued on Page 94)

when anxiety and tension "erupts" in the G. I. tract...

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but cheerful instead of fearful

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Isuprel HCl (10 mg. for adults, 5 mg. for children), the most potent bronchodilator known, makes up the outer coating. In a sudden attack, the patient puts the tablet under his tongue. Relief starts in 60 seconds. A unique feature is the "flavor-timer." As the Isuprel is absorbed a lemon flavor appears. When it disappears—about five minutes later — the patient swallows the tablet.

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Isuprel-Franol tablets are "... effective in controlling over 80% of patients with mild to moderate attacks of asthma."[1]

[1] Fromer, J. L., and DeRisio, V. J.: *Lahey Clin. Bull.* 10:45, Oct.-Dec., 1956.

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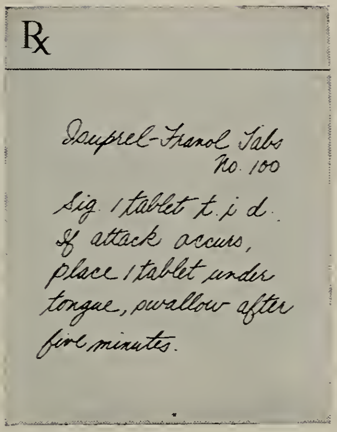

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Isuprel-Franol Tabs
No. 100

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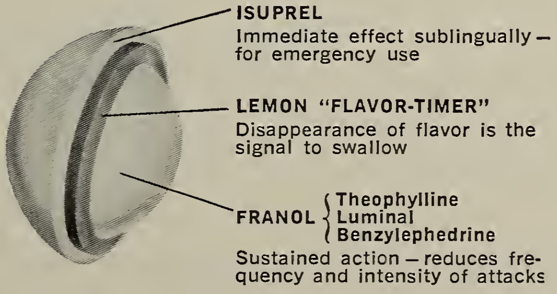
If attack occurs,
place 1 tablet under
tongue, swallow after
five minutes.

ISUPREL-FRANOL tablets (Isuprel HCl 10 mg.) for adults;

ISUPREL-FRANOL Mild tablets (Isuprel HCl 5 mg.) for children:

One tablet every three or four hours taken *orally* for continuous control of bronchospasm in chronic asthma. One tablet taken *sublingually* for sudden attack. "Flavor-timer" signals when patient should swallow. Bottles of 100 tablets.

"Flavor-timer" signals patients when to swallow tablets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FRANOL { Theophylline
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Sustained action—reduces frequency and intensity of attacks

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CLASSIFIED ADVERTISEMENTS

(Continued from Front Advertising Section Page 44)

PHYSICIANS WANTED *(Continued)*

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WANTED—GENERAL PRACTITIONER, Portola Valley, 7 miles from Stanford University. Population 3,000. No physician in area. New 800 sq. ft. office available. John M. Davis, D.D.S., 828 Portola Road, Portola Valley, California. Telephone: UL 1-7635.

EXCEPTIONAL OPPORTUNITY FOR INTERNIST AND SURGEON as independent members of Medical Group in San Joaquin Valley town of 50,000. Box 93,625, California Medicine.

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INTERNIST, BOARD CERTIFIED, desires group or association. Available now. Experienced in private practice. Age 36, married, military obligations completed. Box 93,855, California Medicine.

INTERNIST, AGE 33, BOARD ELIGIBLE, university hospital trained. California license. No military obligation. With interest in endocrinology and metabolic diseases, isotopes, desires group or association, willing to do general practice without obstetrics. Available April 1, 1958. Box 93,860, California Medicine.

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OB-GYN POSITION. Completing a four-year residency at a university medical center. Married, family, Category IV, age 31. Desires association, partnership, or clinic in Northern California. Available July, 1958. Box 93,825, California Medicine.

OBSTETRICIAN-GYNECOLOGIST: Age 30, Board qualified, university hospital trained, family, now in practice in Massachusetts, desires association, partnership, group in California. Box 93,865, California Medicine.

(Continued on Page 90)

Nervous Tension May Cause Hyperthyroidism Symptoms

Patients who appear to be suffering from overactive thyroid glands actually may have "nicotinitis" or "coffeeitis," a Wisconsin doctor has stated.

Writing in the November 23 *Journal of the American Medical Association,* Dr. Arnold S. Jackson, Madison, Wisconsin, discussed 228 cases in which the ailments were misdiagnosed as hyperthyroidism.

Of these, 112 patients had normal thyroid gland activity, but were nervously exhausted or under great tension. Thirty had menopausal symptoms, 27 were physically exhausted, and the others had a variety of ailments.

Among the 112 patients with a nervous basis for their symptoms, the most important single factor responsible was overindulgence in the use of stimulants—coffee, tea, and nicotine, Dr. Jackson said. In fact, the use of stimulants was so important and occurred so often, the terms "coffeeitis" and "nicotinitis" were coined to express the trouble.

Many patients were consuming large doses of barbiturates, tranquilizers, and other drugs in an effort to combat the nervous stimulation and its resultant nervous tension, palpitation of the heart, tremor, insomnia, and weight loss.

The effect of withdrawing these drugs and restoring the patient to a normal routine was dramatic, he said.

The symptoms of an overactive thyroid may be confused with those of nervous exhaustion, although there are distinguishing factors, Dr. Jackson said. Weight loss, heart palpitations, moist warm skin, prominence of the eyes, tremor of the fingers, nervousness, and insomnia, may occur with hyperthyroidism or nervous prostration.

However, in weight loss from hyperthyroidism, the patient does not usually lose his appetite as he does in nervous exhaustion. In hyperthyroidism, there are characteristic changes in blood pressure and weakness of certain muscles which do not occur in the other condition.

Dr. Jackson noted that basal metabolism tests, the common test for thyroid activity, often may be inaccurate. This frequently occurs because the patient is nervous and breathes faster during the test than he normally does. The test is based on the individual's use of oxygen.

Before a physician makes a diagnosis of hyperthyroidism on the basis of the metabolism test, he should consider the other physical signs of weight loss, blood pressure, and muscular weakness, Dr. Jackson said. In addition, he should make sure that nervous tension and exhaustion are not the causes of the symptoms.

He noted that emergency surgical removal of the thyroid gland is frequently recommended for hyperthyroidism. The operation should never be considered an emergency. Time must be taken to make

(Continued on Page 106)

better
early than
late, better
late than never

make him want to stop overeating with

Ambar™ Tablets and Extentabs

Methamphetamine and Phenobarbital

Your obese patients may resist weight reduction because they fear losing the emotional security involved in overeating. AMBAR™ Tablets or Extentabs* add incentive to weight reduction, give the patient a better chance of holding off the disabling effects of continued overweight and obesity. Methamphetamine, a more potent CNS augmenter than amphetamine yet producing less cardiovascular effect, is combined with phenobarbital—result, mood amelioration without undesired excitation — weight reduction without jitters.

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10 to 12 hours of appetite suppression in 1 controlled-release, extended action tablet

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BOOKS RECEIVED

Books received by CALIFORNIA MEDICINE *are acknowledged in this column. Selections will be made for more extensive review in the interests of readers as space permits.*

AIDS TO THE DIAGNOSIS AND TREATMENT OF DISEASES OF CHILDREN—10th Edition—F. M. B. Allen, M.D., F.R.C.P. (Lond.), Nuffield Professor of Child Health, Queen's University, Belfast. Bailliere, Tindall and Cox, London, 1957; The Williams and Wilkins Company, Baltimore, exclusive U. S. agents. 302 pages, $3.00.

ANXIETY, NEUROSIS AND PSYCHOSOMATIC TEST—M. J. Freeman, Ph.D., Grune and Stratton, Inc., 381 Fourth Avenue, New York 16, N. Y., 1957. 1 Manual, $1.25, 10 tests and 10 profile sheets, $1.75.

ATOMIC ENERGY IN MEDICINE—K. E. Halnan. Philosophical Library, New York, 1957. 157 pages, $6.00.

BONE DISEASES IN MEDICAL PRACTICE—I. Snapper, M.D., Director of Medicine and Medical Education, Beth-El Hospital, Brooklyn. Grune & Stratton, Inc., 381 Fourth Ave., New York 16, N. Y., 1957. 229 pages, plus two-page preface, and 48 pages of plates, $15.00.

BRAIN TUMORS—Their Biology and Pathology—American Edition (based on Second German Edition)—K. J. Zülch, M.D., Professor of Neurology, University of Cologne; Translated by Alan B. Rothballer, M.D., M.Sc., Assistant Professor of Anatomy and Surgery, Albert Einstein College of Medicine; and Jerzy Olszewski, M.D., Ph.D., Associate Professor of Pathology, College of Medicine, University of Saskatchewan. Springer Publishing Company, Inc., New York, 1957. 308 pages, $9.50.

CARDIOVASCULAR REHABILITATION—Edited by Paul Dudley White, M.D., Massachusetts General Hospital, Boston; Howard A. Rusk, M.D., Director, Institute of Physical Medicine and Rehabilitation, New York-Bellevue Medical Center; Bryan Williams, M.D., Clinical Instructor in Medicine, Southwestern Medical School, University of Texas; and Philip R. Lee, M.D., Department of Internal Medicine, Palo Alto Clinic. The Blakiston Division, McGraw-Hill Book Company, Inc., 1957. 155 pages, $6.50.

CHEMICAL METHODS IN CLINICAL MEDICINE—Their Application and Interpretation with Techniques of Simple Tests—Fourth Edition—G. A. Harrison, B.A., M.D., B.Ch. (Cantab.), M.R.C.S. (Eng.), L.R.C.P. (Lond.), F.R.I.C. Grune & Stratton, New York, 1957. 667 pages, $11.00.

CIBA FOUNDATION COLLOQUIA ON ENDOCRINOLOGY—Volume XI—Hormones in Blood—G. E. W. Wolstenholme, O.B.E., M.A., M.B., B. Ch., and Elaine C. P. Millar, A.H.-W.C., A.R.I.C., Editors. Little, Brown and Company, Boston, 1957. 416 pages, $9.00.

CLINICAL ELECTROCARDIOGRAPHY—The Spatial Vector Approach—Robert P. Grant, M.D., National Heart Institute, National Institutes of Health, Bethesda. The Blakiston Division, McGraw-Hill Book Company, Inc., New York, 1957. 225 pages, $7.50.

DEAFNESS, MUTISM AND MENTAL DEFICIENCY IN CHILDREN—Louis Minski, M.D., F.R.C.P., D.P.M., Consultant Psychiatrist Royal National Throat, Nose and Ear Hospital, Associate Psychiatrist St. George's Hospital, London. Philosophical Library, Inc., Publishers, 150 East 40th Street, New York 16, N. Y., 1957. 82 pages, $3.75.

DISORDERS OF THE BLOOD—Diagnosis: Pathology: Treatment: Technique—Eighth Edition—Sir Lionel E. H. Whitby, C.V.O., M.C., M.A., M.D. (Cantab.) and C. J. C. Britton, M.D. (New Zealand), D.P.H. Grune and Stratton, New York, 1957. 878 pages, $11.50.

HEALING OF WOUNDS, THE—A Symposium on Recent Trends and Studies—Edited by Martin B. Williamson, Ph.D., Professor of Biochemistry, Stritch School of Medicine, Loyola University, Chicago. The Blakiston Division, McGraw-Hill Book Company, Inc., New York, 1957. 202 pages, $7.00.

ILLUSTRATED BIRTH CONTROL MANUAL, THE—Valerie Hopkins Parker, M.D., Charter Member, American Association of Marriage Counsellors. For Professional Distribution Only. Cadillac Publishing Co., Inc., 220 Fifth Avenue, New York 1, N. Y., 1957. 392 pages, 151 figures, $5.00.

LUMBAR PUNCTURE AND SPINAL ANALGESIA—2nd Edition—Sir Robert Macintosh, M.A., D.M., F.R.C.S. (Edin), F.F.A.R.C.S., M.D., Nuffield Professor of Anaesthetics, University of Oxford. The Williams and Wilkins Co., Baltimore, exclusive U. S. agents, 1957. 142 pages, $6.00.

MANAGEMENT OF COMPLICATIONS IN EYE SURGERY—Edited by R. M. Fasanella, M.D., Chairman, Section of Ophthalmology, Yale University School of Medicine. W. B. Saunders Company, Philadelphia, 1957. 422 pages, illustrated, $16.00.

MANUAL OF PEDIATRIC PHYSICAL DIAGNOSIS—Lewis A. Barness, M.D., Associate Professor of Pediatrics, University of Pennsylvania School of Medicine. The Year Book Publishers, Inc., 200 East Illinois, Chicago, 1957. 195 pages, $4.00.

PHYSIOLOGIC BASIS OF GASTROINTESTINAL THERAPY, THE—Selected Topics—Heinrich Necheles, M.D., Ph.D., F.A.C.P., Director, Department of Gastro-Intestinal Research, Medical Research Institute, Michael Reese Hospital; and Martin M. Kirshen, M.D., F.A.C.P., Professor of Clinical Medicine, Chicago Medical School. Grune & Stratton, Inc., 381 Fourth Avenue, New York 16, N. Y., 1957. 330 pages, $8.75.

PRACTICAL HANDBOOK OF MIDWIFERY AND GYNAECOLOGY—Fifth Edition—For Students and Practitioners—W. F. T. Haultain and Clifford Kennedy. E. & S. Livingstone, Ltd., London, 1957; The Williams and Wilkins Company, Baltimore. 410 pages, $7.00.

PRACTICAL USE OF THE OFFICE LABORATORY AND X-RAY—Including the Electrocardiograph—Paul Williamson, M.D. The C. V. Mosby Company, St. Louis, 1957. 323 pages, $10.75.

PROGRESS IN NEUROLOGY AND PSYCHIATRY—An Annual Review—Volume XII—Edited by E. A. Spiegel, M.D., Professor and Head of the Department of Experimental Neurology, Temple University School of Medicine. Grune & Stratton, New York, 1957. 657 pages, $12.00.

ROENTGEN DIAGNOSIS OF ABDOMINAL TUMORS IN CHILDHOOD—Charles M. Nice, Jr., M.D., Ph.D. Alexander R. Margulis, M.D., and Leo G. Rigler, M.D., Department of Radiology, University of Minnesota Medical School. Charles C. Thomas, Publisher, Springfield, Illinois, 1957. 75 pages, $4.00.

SURGERY IN WORLD WAR II—Ophthalmology and Otolaryngology—Colonel John Boyd Coates, Jr., M.D., Editor in Chief; M. Elliott Randolph, M.D., Editor for Ophthalmology; Norton Canfield, M.D., Editor for Otolaryngology; Office of the Surgeon General, Department of the Army, Washington, D. C., 1957. For sale by Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C., 605 pages, $5.00.

SYMPOSIUM ON DISEASES AND SURGERY OF THE LENS—Editor George M. Haik, M.D., F.A.C.S., Professor of Ophthalmology, Louisiana State University School of Medicine; Associate Editor, Elizabeth M. McFetridge, M.A.; Art Editor, Don Alvarado. C. V. Mosby Company, St. Louis, 1957. 260 pages, $10.50.

SYNOPSIS OF OTORHINOLARYNGOLOGY—John F. Simpson, F.R.C.S., Ian G. Robin, F.R.C.S., and J. Chalmers Ballantyne, F.R.C.S. John Wright & Sons, Ltd., Bristol, 1957; The Williams and Wilkins Company, Baltimore, U. S. agents. 443 pages, $8.50.

TEXT-BOOK OF X-RAY DIAGNOSIS, A—By British Authors—Third Edition—Vol. 1—Head and Neck—Edited by S. Cochrane Shanks, M.D., F.R.C.P., F.F.B., Director, X-Ray Diagnostic Department, University College Hospital, London; and Peter Kerley, C.V.O., C.B.E., M.D., F.R.C.P., F.F.R., D.M.R.E., Director, X-Ray Department, Westminster Hospital; Radiologist, Royal Chest Hospital, London. W. B. Saunders Company, Philadelphia, 1957. 521 pages, 521 illustrations, $18.00.

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References:: (1) Stein, I. D.: Circulation *12*:833, 1955. (2) Potvin, L.: Bull. Assoc. méd. lang. franç. Canada *85*:941, 1956. (3) Sigg, K.: Angiology *8*:44, 1957. (4) Elder, H. H. A., and Armstrong, J. B.: Practitioner *178*:479, 1957. (5) Braden, F. R.; Collins, C. G., and Sewell, J. W.: J. Louisiana M. Soc. *109*:372, 1957.

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CLASSIFIED ADVERTISEMENTS

(Continued from Page 84)

SITUATIONS WANTED *(Continued)*

ORTHOPEDIST, PART I BOARDS, finishing residency, desires association with an orthopedist or smaller group in California. Prefer Bay area. Fully qualified in all phases of orthopedics and fractures. Box 93,835, California Medicine.

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ROTATING INTERNSHIP—Approved 250 bed general hospital in San Francisco, with active teaching service. Stipend $300.00 monthly and maintenance. Applicants must be eligible for California license. Contact: EDUCATION COMMITTEE, St. Luke's Hospital, 1580 Valencia Street, San Francisco, California.

SURGICAL RESIDENCY—Approved 250 bed general hospital in San Francisco. Three year approval, large out-patient department and clinic service. Stipend $325.00 per month first year, plus maintenance. Contact: EDUCATIONAL COMMITTEE, St. Luke's Hospital, 1580 Valencia Street, San Francisco, California.

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PHYSICIAN WANTED FOR LOCUM TENENS approximately May 1, to September 1, 1958, for active general practice in a community 50 miles north of San Francisco. Will require full time. Please apply with full particulars and expectations. Box 93,720, California Medicine.

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CALIFORNIA: ACTIVE GENERAL PRACTICE FOR SALE. Growing community. Orange County. Good open staff hospitals nearby. Excellent opportunity. Available immediately. Write or call Franz Pohl, M.D., 900 South Walnut Street, Anaheim, California. Telephone KEystone 5-4773.

GENERAL PRACTICE—Growing area 100 miles east of Los Angeles. Area of 25,000. Separate practice in half of two-man office located one-half city block from open-staff hospital. $2,500 will handle, includes advance rent and half of fixed assets used by both associates. Other equipment optional. Box 93,810, California Medicine.

(Continued on Page 98)

A Message from the American Medical Association

During May and June, the House and Senate Joint Committee on Atomic Energy held eight days of public hearings on the nature of radioactive fallout and its effects on man. The hearings covered, in detail, the whole cycle of fallout from its inception in the detonation of nuclear weapons, through its scattering about in the atmosphere and descent to earth, and finally its uptake by and effect on human beings, animals, and vegetation. Some fifty experts were invited to present scientific testimony ranging from physics to pathology and from geology to genetics, as it relates to fallout.

One point the Committee was interested in was whether scientists, many of whom are employed by government agencies, felt free to work and exchange information in the sciences related to fallout. The weight of the testimony was that such freedom exists. Another point the Committee was interested in, and one on which the testimony was not so satisfying, according to the Committee report, is whether or not information on fallout and its effects is reaching the public. Information on the biological effects of radiation has been presented to the public in widely read reports by the British Medical Council and by the National Academy of Sciences. These reports contain some information directly applicable to the fallout question.

In its summary of key points, the Joint Committee outlined seven general observations made on the results of the hearings. They are as follows:

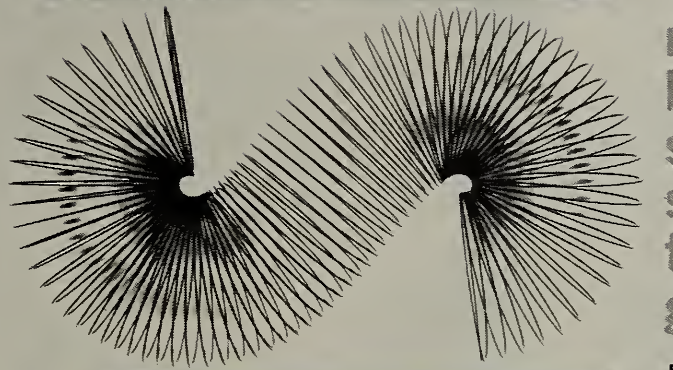
1. *Origin of Fallout.* It was pointed out that all nuclear explosions can be expected to produce some radioactive materials. However, certain kinds of explosions produce very much less radioactivity than others. Although there is no such thing as an absolutely "clean" weapon (that is, there is no such thing as a nuclear weapon detonation completely free of accompanying radioactivity), the amount of the radioactivity produced can be substantially altered in relation to the size of the explosion.

2. *Distribution of Fallout.* There was substantial, but far from complete, agreement on what happens to radioactive debris produced in man's environment, how much is there now, how and where it is distributed, and how much is in man himself. There was considerable evidence presented to indicate that in no part of the atmosphere is fallout uniformly distributed and that, therefore, the effects of fallout on the world's population could not necessarily be expected to be uniform.

3. *Biological Effects of Radiation.* There was general agreement that any amount of radiation, no matter how small a dose, increases the rate of genetic mutation in a population. There was, on the other hand, a difference of opinion as to whether a very small dose of radiation would produce, simi-

(Continued on Page 92)

spasm



quick stop to g.i. spasm...

BENTYL

2 caps t.i.d. (dicyclomine hydrochloride)

no atropine or belladonna-like side effects ...[1,2] safe—even in the presence of glaucoma[3-5]

References:

1. McHardy, G. and Browne, D. C.: South. M. J. 45:1139, 1952. 2. Hock, C. W.: J.M.A. Ga. 40:22, 1951. 3. Hufford, A. R.: Am. J. Dig. Dis. 19:257, 1952. 4. Brown, Jr., D. W. and Guilbert, G. D.: Am. J. Ophthal. 36:1735, 1953. 5. Cholst, M., Goodstein, S., Berens, C. and Cinotti, A.: Scientific Exhibit, A.M.A., June, 1957.

Capsules, Syrup (plain and with phenobarbital), Tablets with Phenobarbital, and Injection TRADEMARK: 'BENTYL'

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Another Exclusive Product of Original Merrell Research

Each capsule or teaspoonful (5 cc.) contains 10 mg. of Bentyl (dicyclomine hydrochloride).

A Message from the American Medical Association

(Continued from Page 90)

larly, an increased incidence of such somatic conditions as leukemia or bone cancer, or a disease of life expectancy, in a population.

4. *Tolerance Limits.* There was general agreement that there is a limit to the amount of radioactivity and, hence, to the amount of fission products that man can tolerate in his environment. The extent to which existing and future generations will be affected by man-made radiation was shown to be intimately tied to certain decisions, moral as well as scientific.

5. *Effects of Past Tests.* It was clearly shown that man's exposure to fallout radiation, including strontium 90, is and will be in general small, *for the testing already done*, compared with his exposure to other "normal background" sources of radiation (a fraction of 1 to 10 per cent), and even compared with variations in "normal background" sources. But it was not agreed on how this information should be interpreted.

6. *Effects of Future Tests.* There were differences of opinion on how to forecast the consequences of further testing. The differences hardest to reconcile appear to be those concerning the biological effects of radiation. Pending a resolution of differences, it would appear from the information presented, that the consequences of further testing over the next several generations at the level of testing of the past five years could constitute a hazard to the world's population.

7. *Effects of Nuclear War.* The catastrophic nature of the radiation effects from a multi-weapon (atomic and hydrogen bombs) attack on the United States were clearly portrayed. This, of course, could be applied to any nation.

The 19-page Committee print of the report entitled "Summary-Analysis of Hearings, May 27-29 and June 3-7, 1957, on the Nature of Radioactive Fallout and Its Effects on Man" was printed by the U. S. Government Printing Office for the use of the Joint Committee on Atomic Energy. Those desiring a copy of the report may make request through this source and reference.

Reprinted from the U. S. Armed Forces Medical Journal which included the following: From the Council on National Defense of the American Medical Association. The views and opinions expressed are not necessarily those of the Department of Defense.—Editor.

Make your hotel reservation today for the C.M.A. Annual Session, Los Angeles, April 27-30, 1958. Application for Housing Accommodations may be found on page 78, Advertising Section.

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when anxiety and tension "erupts" in the G. I. tract...

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PATHIBAMATE*

Meprobamate with PATHILON® Lederle

Combines Meprobamate (*400 mg.*) the most widely prescribed tranquilizer . . . helps control the "emotional overlay" of ileitis — without fear of barbiturate loginess, hangover or habituation . . . *with* PATHILON (*25 mg.*) the anticholinergic noted for its extremely low toxicity and high effectiveness in the treatment of many G.I. disorders.

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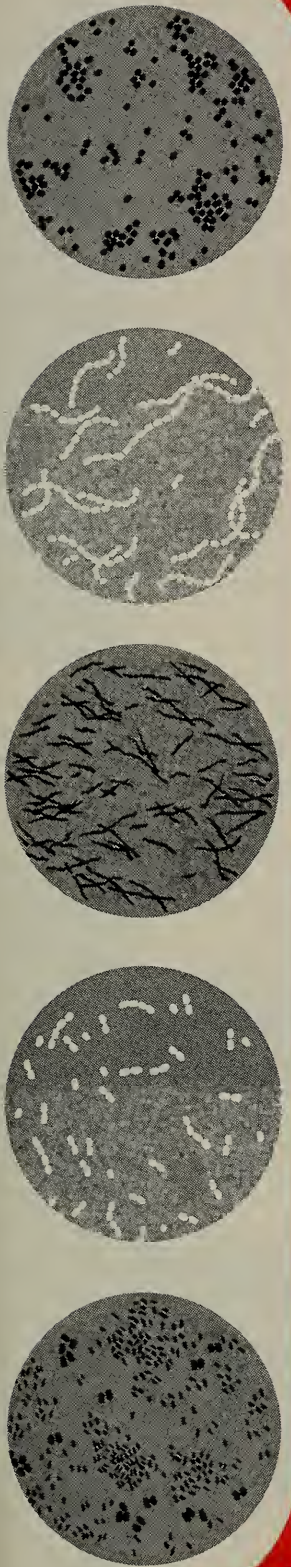

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RESPIRATORY INFECTIONS

In a series of respiratory infections consisting of cases of acute bacterial pharyngitis — including scarlet fever — acute sinusitis, laryngotracheobronchitis, pneumonia

"... excellent results [were obtained] with tetracycline in the treatment of pneumococcic and hemolytic streptococcic infections.... Adverse symptoms, mainly gastrointestinal, due to the administration of tetracycline, were minimal."[1]

1. Wood, W. S.; Kipnis, G. P.; Spies, H. W.; Dowling, H. F.; Lepper, M. H., and Jackson, G. F.: A.M.A. Arch. Int. Med. *94*:351 (Sept.) 1954.

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POTENTIATED TETRACYCLINE **HOMOGENIZED SYRUP**

oral tetracycline now potentiated for higher, faster blood levels — in a delightful, orange-flavored, orange-colored liquid especially for pediatric patients and older patients who prefer liquid medication

Bottles of 2 oz. and 1 pint, each 5 cc. teaspoonful containing potentiated tetracycline equivalent to 125 mg. of tetracycline hydrochloride

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For patients with influenza and those with minor respiratory infections, **TETRACYDIN®** Tablets (tetracycline-analgesic-antihistamine) provide support on two levels: 1) prompt symptomatic relief; and 2) prophylaxis of secondary complications such as infections due to pneumococci, streptococci and staphylococci.

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Each green, film-coated Tetracydin tablet contains: Phenacetin 120 mg., Salicylamide 150 mg., Caffeine 30 mg., Buclizine HCl 15 mg., Tetracycline HCl 125 mg.

American Medical Association Not Alone in Fighting Forand Bill

(Continued from Page 80)

presently may not be aware of the situation but once they understand the problem will be in hearty disagreement with any thinking among the American Hospital Association leadership which might favor the expedient use of Social Security to meet a financial problem (not one of lack of care—one of financing only). The data requested in this area will be most helpful in *scouting* the allegation that there is a large unmanageable problem involved.

Therefore, it you have an opportunity to discuss this with any representative directors of a hospital, we suggest it might be advantageous to do so. If they agree with the sentiment expressed they might wish to convey it to those who represent the hospitals at the headquarters of the Association. It would be unfortunate if those at the top of the organization took a shortsighted view—a view in which we are sure most hospital directors would not concur if they gave the matter serious thought.

While these proposals form an entering wedge to "National Health Insurance" under Social Security, they do have somewhat similar counterparts at the *state* level. In New York State, for example, five bills were introduced last session which would have

(Continued on Page 106)

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clinically tested . . .

by more than 700 physicians in over 4900 cases of overweight in selected University Hospitals and Clinics as well as in private practice.[2]

not a CNS stimulant . . .

unlike *d*-amphetamine, LEVONOR is not a central nervous system stimulant, but is an *anorexigenic specific* that does not cause "jitters," tenseness, or nervousness. Can be given after dinner... AT 8 P.M. OR LATER... to allay night-time hunger without disturbing sleep.[3]

safe . . .

"5 times safer (LD/50) than *d*-amphetamine"[4]... strikingly free of side-effects.

effective . . .

produces an average weight loss of 2-2½ lbs. per week.

suggested dosage schedule . . .

clinicians have found LEVONOR particularly well suited to a dosage schedule of one tablet three times a day . . . at 11 a.m., 4 p.m., and 8 p.m. Some patients, especially those who have previously been treated with *d*-amphetamine, may require a temporary initial dosage of two tablets three times a day. LEVONOR offers the latitude necessary to adjust dosage to the needs of individual patients.

available . . .

in bottles of 100 tablets, each tablet containing 5 mg. of 1-phenyl-2-aminopropane alginate.

1. Sc. Exhibit, A.M.A. Meeting, Dec. 2-6, 1957.
2. Sc. Exhibit, Mich. State Med. Meeting, Sept. 25-27, 1957.
3. Gadek, R. J.: Report 912:1957.
4. Sc. Exhibit, N. Y. State Med. Meeting, Feb. 18-21, 1957.

NORDMARK Pharmaceutical Laboratories, Irvington, N. J.

†Patent Pending   *Trademark

CLASSIFIED ADVERTISEMENTS

(Continued from Page 90)

PRACTICES FOR SALE (continued)

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FOR RENT—Available at once: Medical suite in new medical building in San Francisco Bay Area, near 25 million shopping center, midway between San Leandro and Hayward. Suitable for general practitioner or specialist. Write or telephone, Ashland Professional Center, 16378 East 14th Street, San Leandro, California. BRowning 8-2222.

FOR RENT—Location for specialist in growing community in centrally located Medical Building in suburban metropolitan area of Oakland, California. Excellent opportunity for dermatologist, neurosurgeon, obstetrician-gynecologist, orthopod, otolaryngologist, pathologist, pediatrician, psychiatrist, urologist. Reasonable rent. Now available. San Leandro Medical Building Co., 1556 Leonard Drive, San Leandro, California. TRinidad 2-9200.

MEDICAL SUITE—Only space available in vast, unopposed residential section adjoining modern shopping center. Middle to high income clientele. Pharmacy and Dentist in building doing fine. Suite (approximately 1200 sq. ft.) is professionally designed and tastefully decorated. Refrigerated, air conditioned, ultra modern building with private parking. Excellent lease at very reasonable rate. Physician needed. Contact F. N. Newton, 2517 River Boulevard, Bakersfield, California. Telephone: FAirview 2-4200.

NORTHRIDGE, 8540 Medical Arts Building, 8540 Reseda Boulevard, California. Five new desirable air-conditioned suites available. 700-1100 sq. ft. Outstanding location. Utilities, elevator, laboratory, X-ray, and Pharmacy. DI 2-3135.

NOVATO: AVAILABLE FEBRUARY, 1250 sq. ft., modern medical bungalow, now occupied by two associated physicians. All appointments, all facilities, off-street parking, et cetera. Located opposite medical center on main street of town. Sidney R. Kerston, D.D.S., 1223 Grant Avenue, Novato, California.

SOUTHERN CALIFORNIA—SANTA ANA, medical center of Orange County, rapidly growing community with stabilized agricultural and industrial economy, thirty miles southeast Los Angeles and ten miles from Pacific. Seventeen custom designed suites with private entrances from landscaped court. Filtered refrigerated and heated air thermostatically controlled. Available March, 1958. Brochures on Center, Santa Ana and Orange County available. Santa Ana Medical Center—2515 North Main Street, Santa Ana, California.

REDWOOD CITY in heart of medical zone now leasing 2 large doctors' suites, 5 rooms each, parking facilities. New Building. Rents below prevailing rentals. Adjustment will be made if your present lease conflicts with plans for immediate change. Telephone EMerson 9-1771 or write 1040 Brewster Avenue, Redwood City, California.

PALO ALTO NEW MEDICAL DENTAL SUITES NOW READY. Alma Street and East Meadows Drive. Very attractive building on ground floor within extensive landscaped area. Ample off-street parking, and located in fast growing section away from congestion. Air conditioned. E. J. Nackord, Owner. P. O. Box 601, San Carlos. Descriptive brochure available. Telephone LY 1-0986.

SAN JOSE OFFICES—Pediatrician, Obstetrician, or G. P. Perfect location. New ground-floor medical building. Air-conditioned, ample parking. Middle and upper income families. Pedodontist, dentist, and physician now located in building and very successful. Full cooperation from owners. Herman and Parenti, 315 Gordon Avenue, San Jose, California. Telephone: CLayburn 8-3668 or 8-3374.

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Medical School Enrollment Continues to Increase

Of every 100,000 persons in the United States, 4.7 were enrolled as freshmen in American medical schools during 1956-57.

In fact, there were more freshmen medical students that year than ever before: 7,791, compared with 7,686 in 1955-56, according to the 57th annual report on medical education made by the American Medical Association's council on medical education and hospitals.

However, the number of 1957 graduates (6,796) from 78 approved four-year schools was slightly smaller than the 6,845 graduated in 1956.

The 7,791 freshmen were part of 28,852 students enrolled in the 78 four-year approved medical schools and four schools of two-year basic medical science in the United States. 1956-57 was the eighth consecutive year that a new record in total enrollment was established, the report said. In 1956-57 there were 28,639 students enrolled.

In addition to teaching these medical students, the schools also undertook to teach more than 62,000 other undergraduate students in allied medical fields. These were in dentistry, nursing, pharmacy, x-ray, and medical technology, arts and science courses, physical or occupational therapy, and medical records and medical librarianship. The schools also assisted in the education of interns and residents and practicing physicians doing postgraduate study.

The schools spent more than 200 million dollars in 1956-57, the report said. The cost of supporting the many activities of medical schools has risen steadily with the expansion of those activities and with the general increase in the price of services and goods. Since so many of the schools' funds come directly or indirectly from public sources, there should be available a more meaningful method of accounting for expenditures, the report said.

In fact, an editorial in the November 16 issue of the *Journal of the American Medical Association,* in which the report appears, called for the development of a uniform system of cost accounting among medical schools. In that way, schools could tell more exactly where their money goes and why they need the amounts they do.

Much financial support has been given to the schools by two organizations, the American Medical Education Foundation, which is supported by physicians and medical organizations, and the National Fund for Medical Education, which draws its funds from industry and the Ford Foundation. During 1956, 39,892 contributors gave the foundation $1,072,727, an increase of 40 per cent over 1955. The National Fund gave $3,066,450 to medical schools last January.

The report also showed the following:

—During 1956-57 the schools of medicine at the

(Continued on Page 104)

with ***new***

VIRIATRIC

geriatrics feel better... faster... longer

without stimulation... without letdown

We won't predict that pole vaulter... Class of '19... is going to make it...

We don't recommend such strenuous exercise for geriatric patients... even when they're faithfully taking *Viriatric* tablets.

We *do* recommend that you prescribe *Viriatric* for geriatric patients and we do predict that they'll feel better... faster... longer... without alcoholic or amphetamine stimulation... when they take two *Viriatric* tablets twice a day.

In cases where stimulants are advisable, they may be prescribed separately.

Some of the important *Viriatric* features are...

Glycine and L-Lysine provide amino acid supplements
Balanced blend of hormones help prevent metabolic degeneration
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Niacinamide promotes psychiatric orientation, improved skin tone, muscular and joint mobility

Ethically promoted *Viriatric* Tablets... for geriatrics... available at all pharmacies in bottles of 100.

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Each Viriatric tablet contains:

Methyl Testosterone	0.75	mg.
Ethinyl Estradiol	0.0045	mg.
Vitamin A	1500 U.S.P.	Units
Vitamin D	150 U.S.P.	Units
Vitamin B-1	1.5	mg.
Vitamin B-2	1.5	mg.
Vitamin B-6	0.375	mg.
Vitamin B-12 with Intrinsic Factor Concentrate USP	1/40	Unit
Vitamin B-12 Activity	0.5	mcg.
Folic Acid	0.09	mg.
Niacinamide	37.5	mg.
Panthenol	2.5	mg.
Biotin	2.5	mcg.
Vitamin C	37.5	mg.
Hesperidin Purified	6.3	mg.
Rutin	3.75	mg.
Vitamin E	2.5	mg.
Choline Bitartrate	100.0	mg.
L-Lysine Monohydrochloride	37.5	mg.
Inositol	12.5	mg.
Betaine Hydrochloride	25.0	mg.
Pancreatin	24.3	mg.
Pepsin	24.3	mg.
Bile Acids Mixed Oxidized	6.25	mg.
Glycine (Aminoacetic Acid NF)	12.5	mg.
Iron (Ferrous Sulfate, Dried)	5.0	mg.
Copper	0.00017	mg.
Iodine	0.04	mg.
Calcium	70.0	mg.
Manganese	0.5	mg.
Potassium	2.5	mg.
Magnesium	2.5	mg.
Zinc	0.38	mg.
Molybdenum	0.025	mg.

American Hospital Association

At the first meeting of the American Medical Association-American Hospital Association professional liability committee, held in Chicago recently, Dr. Joseph F. Sadusk, Jr., Oakland, California, was elected chairman for one year.

The committee analyzed the material obtained as a result of a two-year study of medical professional liability conducted by the law department of the American Medical Association, and also considered the changing status of the law with respect to the legal immunity of charitable hospitals.

The committee recommended that:

(a) The A.M.A. law department staff make a detailed study of the hospital insurance program for the past three years in California.

(b) The fourth film in the medicolegal series cover the subject of in-hospital professional liability prevention.

(c) A report be made to the Board of Trustees and the House of Delegates of the American Medical Association and of the American Hospital Association with respect to the purpose and program of the joint committee.

(d) The staff prepare and publish in the publications of the two associations a report reviewing the history, present status, and trends concerning the legal liability of charitable and municipal hospitals in cases involving professional liability.

(e) Joint medical and hospital liaison committees be appointed at the state level with purposes similar to those of the national committee.

—*A.M.A. Secretary's Letter*

Medical School Enrollment Continues to Increase

(Continued from Page 98)

University of Mississippi and the University of Missouri graduated their first classes. The University of Florida Medical School, Gainesville, Florida, and Seton Hall College of Medicine and Dentistry, Jersey City, New Jersey, enrolled their first classes.

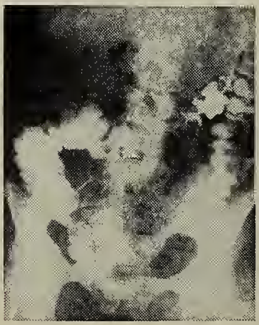
—Beginning in September 1960, the University of West Virginia will enroll third year medical students. At present it has only a two-year school of basic science. First classes will be admitted at the University of Kentucky, Lexington, in 1959 or 1960.

—Thirty-three schools reported initiation or completion of major construction projects. Nineteen began projects estimated to cost about $32,200,000, while 20 completed projects representing an investment of $67,500,000.

—There were 1,646 women enrolled in medical schools during the year, and 330 women were graduated in 1957.

—Ninety American citizens were enrolled in the 12 Canadian medical schools, while eight Canadians were in United States schools.

when anxiety and tension "erupts" in the G. I. tract...
in spastic and irritable colon



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Combines Meprobamate (*400 mg.*) the most widely prescribed tranquilizer... helps control the "emotional overlay" of spastic and irritable colon—without fear of barbiturate loginess, hangover or habituation ... *with* PATHILON (*25 mg.*) the anticholinergic noted for its extremely low toxicity and high effectiveness in the treatment of many G.I. disorders.

Dosage: 1 tablet t.i.d. at mealtime. 2 tablets at bedtime. *Supplied:* Bottles of 100, 1,000.

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Formulated especially, without narcotics or alcohol, it provides the newest developments in

QUICK RELIEF . . .

for the dry hacking cough

Each fluidounce contains:

Glyceryl Guaiacolate . . .	5 gr.
Ammonium Chloride . . .	5 gr.
Sodium Citrate	20 gr.
Menthol	.04 gr.

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NUMOTIZINE COUGH SYRUP

HOBART LABORATORIES, Inc., Chicago 10, Illinois, U.S.A.

American Medical Association Not Alone in Fighting Forand Bill

(Continued from Page 94)

extended the state government's power in the area of requiring insurance companies to sell certain kinds of hospital-medical coverage to the aged at certain fixed prices. Here is just another instance where we should be alert to the threat in a different form, recognizing the broad extent of the problem and offering sound solutions of a business-like type to meet any justifiable needs. —*A.M.A. Secretary's Letter*

Nervous Tension May Cause Hyperthyroidism Symptoms

(Continued from Page 84)

certain that the patient actually has an overactive thyroid gland and is not suffering from some other condition. Once a diagnosis of hyperthyroidism is established, then an operation is in order, he concluded.

Dr. Jackson is associated with the Frieda Meyers Nishan Foundation for the study of goiter at the Jackson Clinic, Madison, Wisconsin.

Where **LECITHIN** *is indicated* –

GRANULESTIN

for oral therapy in psoriasis

A palatable concentrate of 80% purified soy phospholipids (phosphatidyl choline, phosphatidyl ethanolamine and inositol phosphatide) with 20% wheat germ and oat flour in granular form. Dose: 2 to 3 heaping teaspoons (15 to 20 grams) daily; 15 grams supply 1.6 mg. thiamine hydrochloride (added).

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For topical treatment of DENUDED and PAINFUL SKIN LESIONS

Anti-Pyrexol antiseptic ointment reduces pain, minimizes scarring, aids healing of burns, sunburn, scalds, lesions, wounds, and local inflammation of skin and mucous membrane. Sold through surgical supply houses. 1, 5, 10 and 50 lb. tins. Time tested—professionally since 1921. Active ingredients: Oils of spearmint, bay, wintergreen (syn.), salicylic acid, lanolin, zinc oxide, phenol .44%, ortho-hydroxyphenyl-mercuric chloride .056%, petrolatum, paraffin.

Anti-Pyrexol Benzocaine Acutely anesthetic. Contains Benzocaine 3%. 1, 5 and 10 lb. tins.

EASY SPREADING
Anti-Pyrexol
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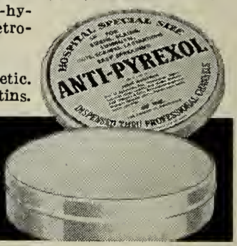

We believe that alcoholism is predominantly a physiological demand for alcohol

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(with year's series of reinforcements)

in the Treatment of

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RESULTS
Based on abstinence

"Published reports indicate that, when properly applied, in a hospital exclusively for Conditioned Response Therapy, a four year abstinence rate of 50% and better may be expected."

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"Exclusively for the treatment of Alcoholism"

To prevent emotional upsets in cardiovascular conditions

'Compazine', by controlling anxiety and tension, can prevent the emotional upsets that so often play an exacerbating role in cardiovascular conditions.

And, 'Compazine' can be depended upon to have little, if any, hypotensive effect.

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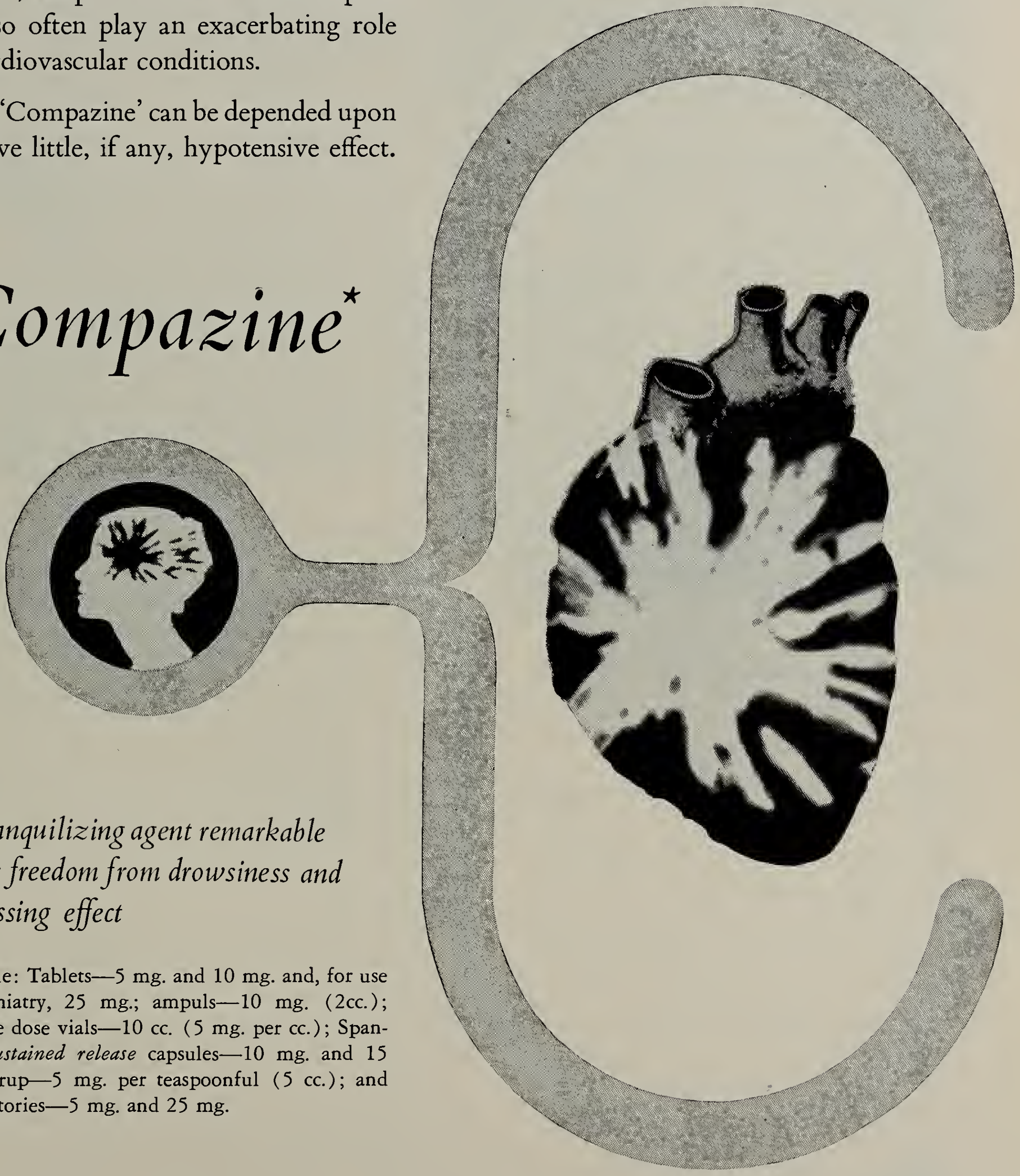

the tranquilizing agent remarkable for its freedom from drowsiness and depressing effect

Available: Tablets—5 mg. and 10 mg. and, for use in psychiatry, 25 mg.; ampuls—10 mg. (2cc.); Multiple dose vials—10 cc. (5 mg. per cc.); Spansule† *sustained release* capsules—10 mg. and 15 mg.; Syrup—5 mg. per teaspoonful (5 cc.); and Suppositories—5 mg. and 25 mg.

Smith Kline & French Laboratories, Philadelphia

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†T.M. Reg. U.S. Pat. Off. for sustained release capsules, S.K.F.

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Chlorothiazide Called Most Effective Diuretic

A new drug, recently called "amazing" as a treatment for high blood pressure, recently was called the most effective agent now available for combating excessive fluid retention by the body.

The drug is chlorothiazide (Diuril). It is a diuretic, which promotes the elimination of body fluids and salts through the kidneys. Last October two Boston physicians announced that the drug, first thought to be only a diuretic, also has an "amazing" blood pressure lowering effect.

Four articles in the January 11 issue of the *Journal of the American Medical Association* deal with the various uses of the drug.

It is probably the most effective diuretic now available, mainly because of its lack of harmful side effects and its economy and ease of administration by mouth, according to Dr. Ralph V. Ford and associates of Houston, Texas. They said it is effective against all types of fluid retention.

A New York group, headed by Dr. John H. Laragh, found it to work against fluid retention caused by heart failure, cirrhosis of the liver, and nephrosis when all other measures had failed.

In discussing the drug's ability to lower blood pressure, Dr. Edward D. Freis and associates, Washington, D. C., said the drug appears to represent an important new development in the treatment of hypertension, but that a longer period of observation is necessary to fully evaluate its effectiveness.

Eight months, the longest reported period the drug has been given, is not long enough to determine the effectiveness of any treatment for hypertension or to rule out the possibility of delayed and as yet unsuspected harmful reactions, they said.

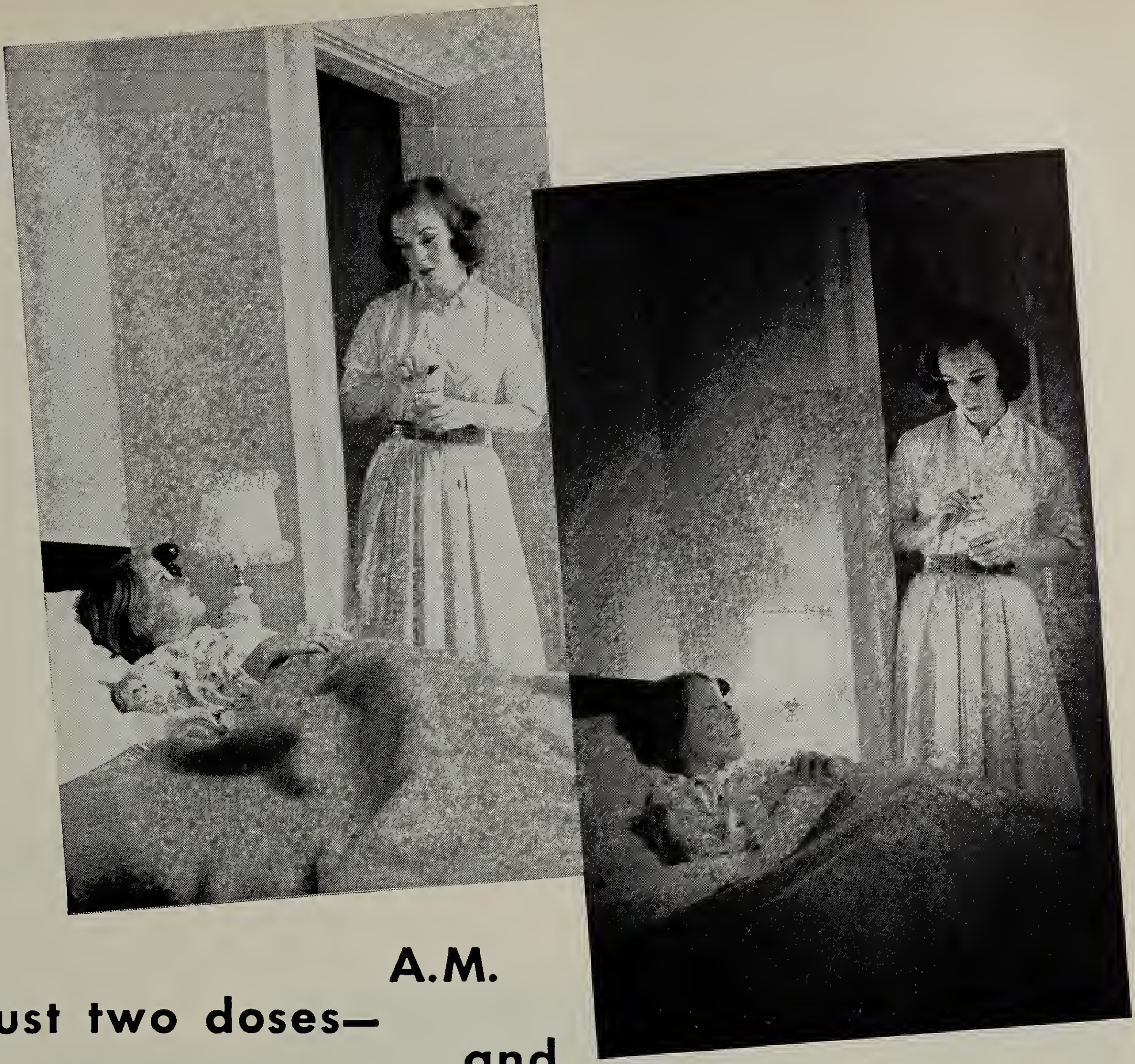
So far chlorothiazide has caused no side effects and patients have not reacted to the drug by needing larger and larger amounts to maintain the same effect. Side effects and tolerance frequently develop with the drugs usually given for high blood pressure.

Dr. Freis gave the drug alone or in combination with other antihypertensive agents to 73 patients. Chlorothiazide "markedly" increased the action of the other drugs and allowed discontinuance or reduction in dosage of the regular agents.

Advantages of chlorothiazide over other agents are that it is given by mouth and has a simple "rule-of-thumb" dosage schedule, the physicians said.

Dr. Frank A. Finnerty and associates, also of Washington, called chlorothiazide "ideal" for the prevention and treatment of toxemia of pregnancy.

(Continued on Page 16)



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Chlorothiazide Called Most Effective Diuretic

(Continued from Page 12)

Toxemia is a general poisoning of the system due to the body's inability to eliminate poisons and waste materials.

Dr. Finnerty gave the drug to 144 pregnant women suffering from hypertension, toxemia, fluid retention or a combination of these conditions. The drug relieved fluid retention in the early stages, thus preventing toxemia. It also relieved toxemia and reduced the blood pressure of those suffering from hypertension.

Wheel Chairs Should Be Prescribed by Physician

The wheel chair should be "prescribed to fit the patient's measurements and modified to meet the demands of his disability," according to an editorial in the January 4 issue of the *Journal of the American Medical Association.*

Factors to be taken into consideration when selecting a chair are the width of the doors and turns in narrow halls through which it must pass, whether it will be used outdoors, and the patient's ability to use his hands in moving it.

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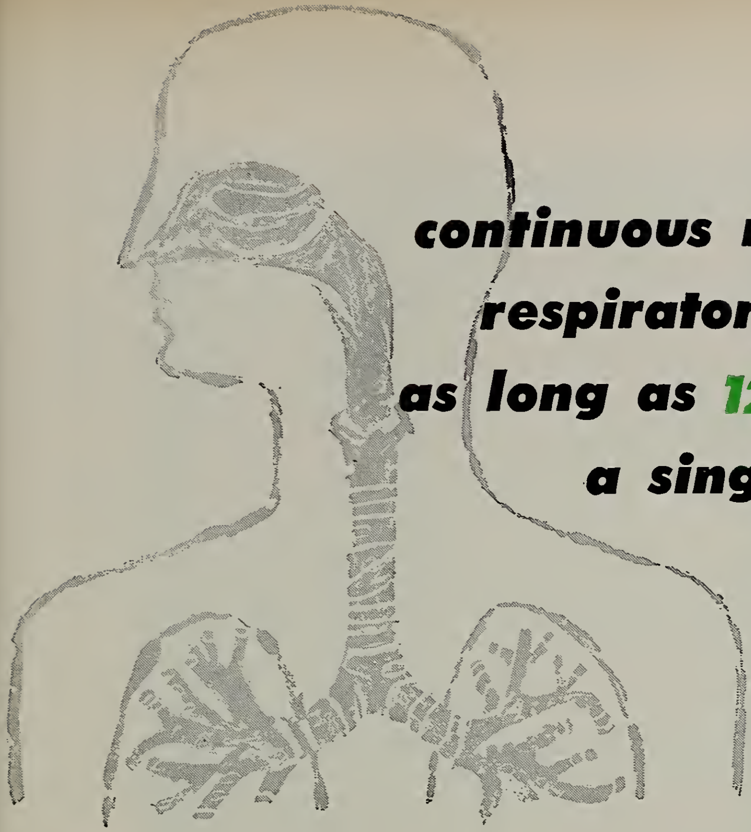

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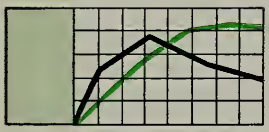

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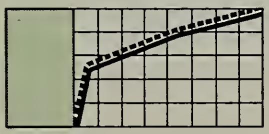

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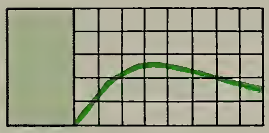

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Administration: Adults—2 tablets twice daily will provide an adequate therapeutic effect in the average patient. In resistant cases, a third daily dose may be indicated and can be safely given. Children over six—one-half the adult dose.

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Chloroform (approx.)	13.5 mg.
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Thallotoxicosis—A Recurring Problem

(Continued from Page 19)

disorders, such as ataxia and choreiform movements, blindness and other paralyses of the special senses, psychoses, peripheral neuritis, and kidney damage, are not unusual.

The symptoms of chronic poisoning are similar but milder. In addition to the digestive and sensory disturbances, there may be neurological manifestations such as incoordination and paralysis of the extremities, encephalitis, endocrine disorders, psychoses, and epilation.

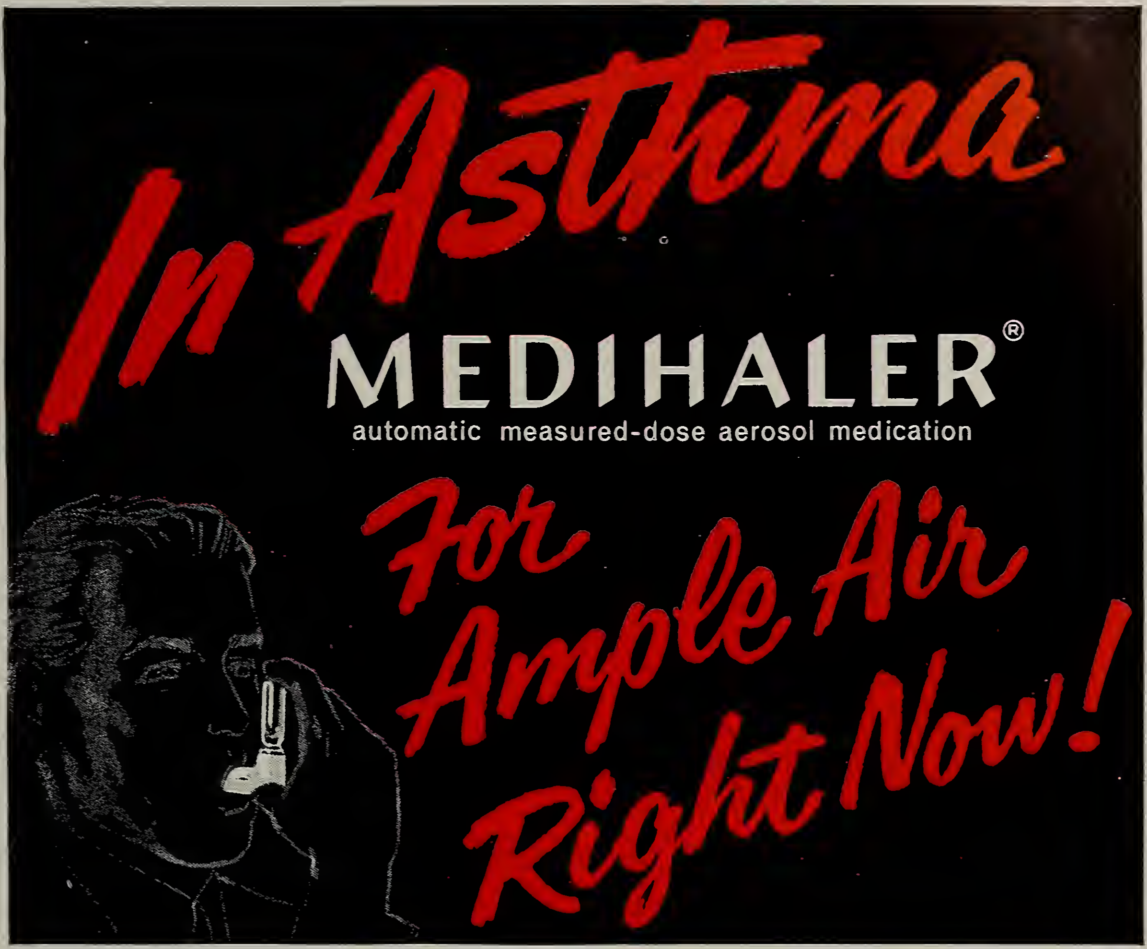
Loss of hair is the most familiar sign of thallium intoxication. It usually appears in the first 10 to 14 days of the disease, but it may not be evident in persons dying within a few days after absorption of large amounts of the poison. The mechanism of hair loss is unknown. Alopecia is fairly characteristic of thallium poisoning although it may also occur in chronic arsenic, lead, and mercury poisoning, after roentgenography and employment of radium, and after the use of certain hair preparations and drugs. It rarely occurs after acute poisoning by compounds other than thallium salts.

Little is known about the specific treatment of thallium poisoning. There is no evidence that iodides materially affect the course of poisoning once significant amounts of thallium have been absorbed. The value of sodium thiosulfate, calcium, or other agents to mobilize thallium from the tissues remains unproved. There is no basis in experimental animal evidence for the use of dimercaprol (BAL) in the treatment of thallium poisoning. Symptomatic (analgesics, sedatives) and supportive measures (physical medicine, maintenance of nutrition and fluid balance) are often required to counteract the widespread and profound alterations of vital functions which invariably occur.

Thallium poisoning in man has had a rather notorious record. This chemical has been frequently used for suicidal or homicidal purposes, and these intentional misuses are part of the justification for the strict regulation of this poison in Australia, England, France, and elsewhere. In New South Wales, Australia, the frequency of intentional poisoning has been so alarming in recent years that a ban on the importation of thallium was threatened. In Europe, thallium is now claimed to be superseding arsenic as a homicidal agent. Aside from its intrinsic efficiency for this purpose, thallium is used, in part, because of easy availability and, in part, because of publicity which has accompanied its use in murders.

Therapeutic poisoning or injury from cosmetic depilatories containing thallium has largely disappeared. Industrial poisoning has always been infrequent, and only a few reports have appeared in the

(Continued on Page 30)



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Children's Response to Injections Gives Clue to Emotions

A child's response to having a shot is a good clue to his emotional maturity, a Milwaukee pediatrician has stated.

A study of 133 children, ranging from tiny babies to 12-year-olds, who underwent 328 shots, showed changing responses as they grew older, Dr. Karl E. Kassowitz said in the January issue of the *Journal of Diseases of Children*, an American Medical Association publication.

He said the many shots and vaccinations that children must routinely undergo offer an excellent means for studying their psychology and measuring their maturity.

All children must learn self-control and develop pride in their "toughness." Their reactions to shots show how well they have developed these traits.

During the first six months of life, children have no emotional response to having a shot. From the end of the first year through the fourth year, there is the greatest amount of "more-or-less violent fear and resentment."

From the fifth year on there is a steady decline in fighting. After the eighth birthday fighting becomes the exception, and self-control and pride in being able to take the shot are the rule.

In fact, lack of self-control after the age of eight to nine may be considered a clue to an underlying emotional disturbance, Dr. Kassowitz said.

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  Basic Principles in General Surgery, Two Weeks, April 7
  Treatment of Varicose Veins, April 7, May 5
  Gallbladder Surgery, Three Days, March 31
  Surgery of Hernia, Three Days, April 3
  General Surgery, Two Weeks, May 5; One Week, May 12
  Fractures & Traumatic Surgery, Two Weeks, March 17
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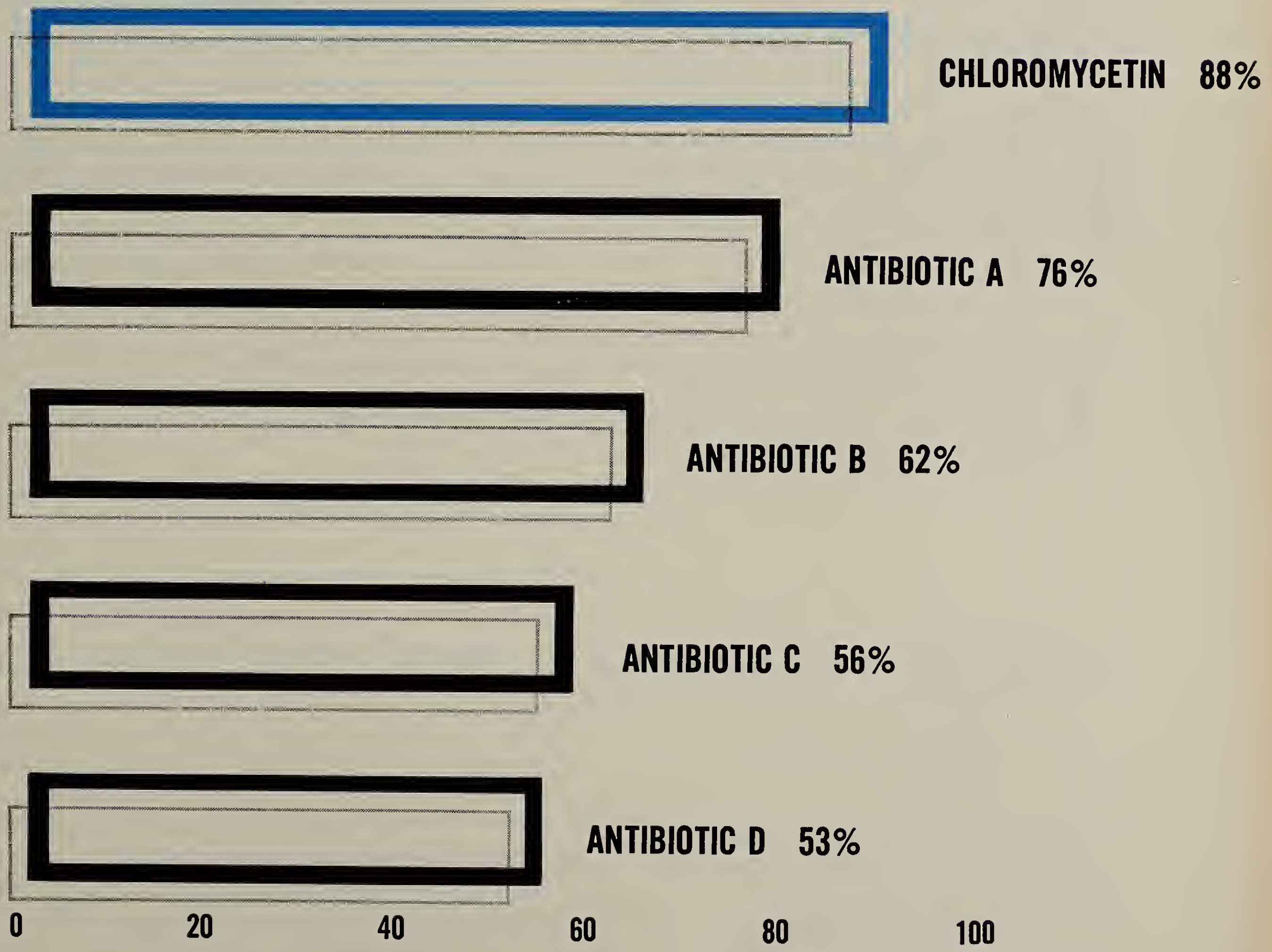

*Adapted from Ditmore and Lind.[2] Organisms tested were isolated from stools of 48 patients.

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Professional inquiries should be addressed to Keith A. Seaton, Registrar, Devereux Schools in California, Santa Barbara, California; eastern residents address John Barclay, Director of Development, Devereux Schools, Devon, Pennsylvania.

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Thallotoxicosis—A Recurring Problem

(Continued from Page 22)

literature. Last year, thallium poisoning in workers impregnating grain was reported from several small industrial establishments in Sweden. Handling the powder without gloves and possible contamination of skin and clothing by liquid thallium impregnate were thought to be the causative factors in injury.

Food poisoning from the ingestion of accidentally contaminated products is occasionally reported. The first and the most widely publicized of these reports occurred in the early 1930's in California. It was associated with the ingestion of thalliferous tortillas by 31 Mexicans, seven of whom died. More recently, in Turkey, food poisoning occurred from ingestion of bread made with thallium-containing flour thought to be contaminated by grain impregnated with this rodenticide. Contamination was sufficient to cause the death of two children and poisoning of five others. Secondary poisoning from the ingestion of the meat of a hen who had consumed poisoned grain was reported from East Germany several years ago. A Finnish report described nonfatal accidental poisoning of two small boys who ingested thallium-treated peas intended for the destruction of pigeons.

An alarming increase in the incidence of thallotoxicosis in infants and children has been reported in Texas this year. Three deaths and well over 60 serious thallium poisoning cases in small children have been recorded in the state's major population areas in a six-month period. The high incidence of poisoning is attributed to the easy accessibility and availability of ant and rodent poisons containing thallium, which are prepared and packaged in a manner especially attractive to children. The problem is not peculiar to Texas, however. Similar cases have been reported from New York to Oregon but with greatest frequency from the southwest and western states.

Thallium is used in these areas principally as an insecticide and rodenticide in the form of a sirup, jelly, and paste for use alone, or it is applied to foods such as bread and cake crumbs, chocolate, peanut butter, nuts, and cereal grains. Homemade and ready-made poison baits containing 1 to 5 per cent of thallium are dispensed alone or in makeshift containers such as bottle caps or short sections of soda straws. The sweetness or savoriness of the bait, coupled with the attractiveness and availability of the bait container or carrier, contributes to the hazards of this material, especially for small children and household pets. Efforts, short of legislation, to encourage more careful distribution and to modify formulations and packaging to make pesticides containing thallium less appetizing and attractive to children have met with little success. One

(Continued on Page 33)

Thallotoxicosis—A Recurring Problem

(Continued from Page 30)

Texas city banned the general sale of insecticides containing 3 per cent or more of thallium. An injunction against marketing these products was threatened at the state level.

When thallium products are needed for the control of highly resistant species of insects and rodents, they should be subject to the type of restriction invoked for very dangerous substances, namely, use by experienced personnel familiar with its hazards and trained in its handling. This recommendation is neither new nor novel. Over 30 years ago, a similar recommendation was made in *The Journal* in an early review of the hazards of thallium used in agriculture. The intervening years have provided ample evidence to support the wisdom of the recommendation.

Reprinted from The Journal of the American Medical Association, November 23, 1957, Vol. 165. Copyright 1957, by American Medical Association, "Council on Drugs."

Reprints of this report may be obtained by writing to the Committee on Pesticides, American Medical Association, 535 North Dearborn Street, Chicago 10, Illinois

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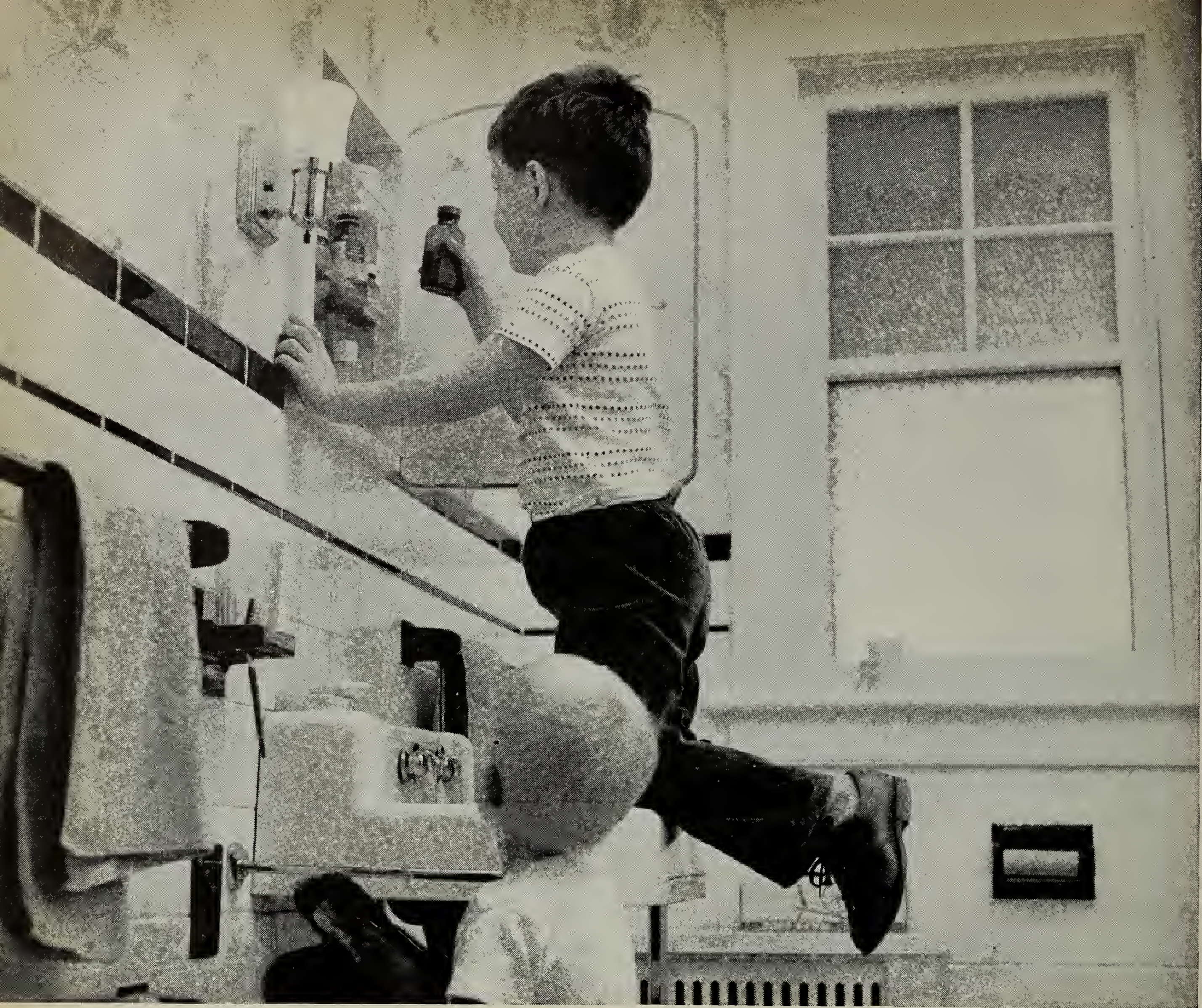
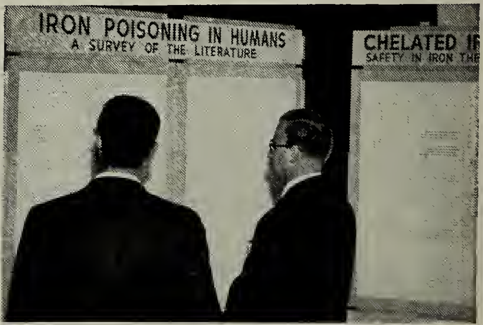


JIMMY J.: A CASE HISTORY OF ACCIDENTAL IRON POISONING

Reports of accidental poisoning by oral iron are increasingly common in current literature. However, a recent editorial (South. M. J. 50:117, 1957) can still describe the "shock when it was clearly demonstrated less than a decade ago that iron salts were not without danger to young children, and might even result in their death."

A Scientific Exhibit on "Iron Poisoning"* at the recent A. M. A. Clinical Meeting in Philadelphia points up the immediacy of the problem and sheds new light on the mechanism of iron toxicity. The case history illustrated here is typical of many mentioned in the exhibit. Ferrous sulfate poisoning is quick and often fatal. Even immediate and positive treatment is not always successful.



*Scientific Exhibit on "Iron Poisoning" by W. G. Rohse, Ph.D.; C. R. Kemp, Ph.D.; M. Franklin, M.D., and J. de la Huerga, M.D. at the American Medical Association Clinical Meeting, December 3-6, 1957. Philadelphia, Pa.

This is an advertisement prepared by Flint, *EATON & COMPANY, Decatur, Illinois*

Case history pictured here was adapted from recently published report. Bibliographic reference available on request.

The curious, searching quality of a child can be a wondrous thing, wandering continually through a world of new sights and sounds and new objects that need to be experienced. But often the inquiring hand of the child inadvertently finds pain.

This is the case history of Jimmy J., an 18-month-old boy brought to the hospital with a complaint of diarrhea and vomiting. When first seen, Jimmy was in shock. It developed that he had eaten a number of enteric-coated ferrous sulfate tablets about two hours earlier. He vomited ten of the tablets soon after, and vomited again on administration of egg yolk. Now he was weak and somnolent, with hyperactivity of deep reflexes.

Initial laboratory examination showed a hemoglobin of 10.8 grams, RBC 5.4 million, WBC 52,000. *Serum iron level was approximately 55 times higher than normal* — 8150 mcg./100 cc. Necrotic intestinal mucosa was passed per anum.

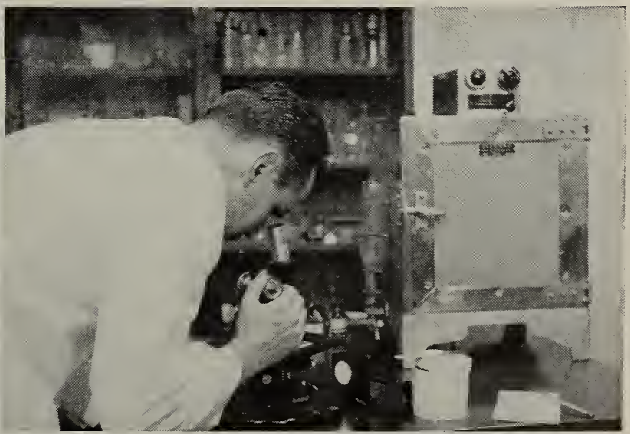
Forced fluids, antibiotics and dextrose were started, but the patient remained in shock until given 150 cc. of whole blood by scalp-vein transfusion. Subsequent treatment included milk with added electrolytes, vitamin K and levulose. Jaundice developed two days after admission but cleared in five days. Bone marrow was compatible with tissue breakdown or with chronic infection.

Six days after admission, Jimmy was able to take a general diet. Serum iron returned to normal, the patient became asymptomatic eleven days after admission, and was then discharged.

Jimmy was fortunate; approximately one out of every two cases of iron intoxication do not recover.

Jimmy was fed the ferrous sulfate tablets by his older brother. Attractively colored sugar-coated pills have an appeal for young palates, yet may often prove fatal.

On admission to the hospital just two hours later, Jimmy presented the classic triad of iron poisoning—vomiting, shock, leukocytosis. Treatment was started immediately.



Necrotic mucosal tissue passed by rectum indicated local g.i. damage caused by the corrosive action of the tablets. Fluoroscope confirmed presence of tablet material.

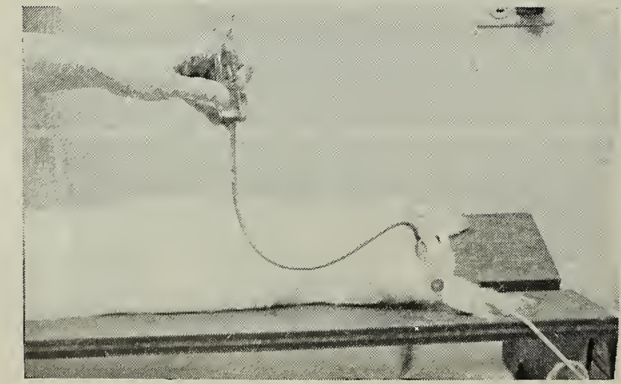
CONTINUED ▶

Significantly, serum iron level prior to transfusion had risen to 8150 mcg./100 cc., more than 50 times higher than normal, indicating uncontrolled absorption of iron salts from the child's intestinal tract.

Despite apparent damage to g.i. tissue, Jimmy was able to take food by mouth six days after admission. Thus, systemic toxicity may not be related to tissue damage.

RECENT FINDINGS INDICATE CHELATION MINIMIZES RISK OF IRON TOXICITY

Studies of iron intoxication described in the recent A. M. A. Scientific Exhibit consistently reveal a direct ratio between elevation of serum iron and incidence of fatality. In a series of dogs and rabbits given 250 mg. iron per Kg. as aqueous solutions of ferrous sulfate or gluconate, all animals died. As in the case of Jimmy, toxicity in these experimental animals was always associated with serum iron elevation far beyond total binding capacities. However, in other animals given equal amounts of iron as iron choline citrate (FERROLIP®), an iron chelate, all rabbits and 90 per cent of dogs survived without evidence of toxicity. Thus, *chelated* iron seemed to permit controlled absorption of iron as needed, without decrease in hematinic effect.



Animal studies confirm relationship of fatality to excessive serum iron elevation with ferrous sulfate or gluconate.

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A new iron chelate (iron choline citrate — FERROLIP) appears to avoid this excessive elevation of serum iron.

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The inherent safety of FERROLIP is apparently due to chelation. The iron complex—"chelated," or bound—apparently can be absorbed and utilized by the body as physiologically needed, at a controlled rate, thus essentially obviating the possibility of excessive free iron in the blood stream. In contrast to readily dissociable iron salts such as ferrous sulfate or ferrous gluconate, experimental evidence has shown that massive doses of FERROLIP have rarely been associated with a dangerous elevation in serum iron.

FERROLIP has additional practical advantages over other forms of iron therapy. As a chelate, it is nonionized, nonastringent, and it remains in solution at pH levels up to 10.5. Consequently, FERROLIP is essentially free from g.i. irritation; it is not precipitated by protein or phosphate, and it can be given in milk or formula; also FERROLIP does not attack or discolor the teeth.

The Greek word *chele* means a claw. The term *chelation* is now applied to chemical processes whereby metallic ions are sequestered or bound into claw-like rings within certain organic molecules. Chelation can be applied to any problem wherein ions of a metal cause trouble. The iron in FERROLIP is bound by this process.

FERROLIP is available in the following forms: TABLETS—Three FERROLIP Tablets supply 1.0 Gm. of iron choline citrate equivalent to 120 mg. of elemental iron and 360 mg. of choline base.

SYRUP—One fl.oz. of FERROLIP Syrup provides 120 mg. elemental iron, equivalent of 3 tablets.

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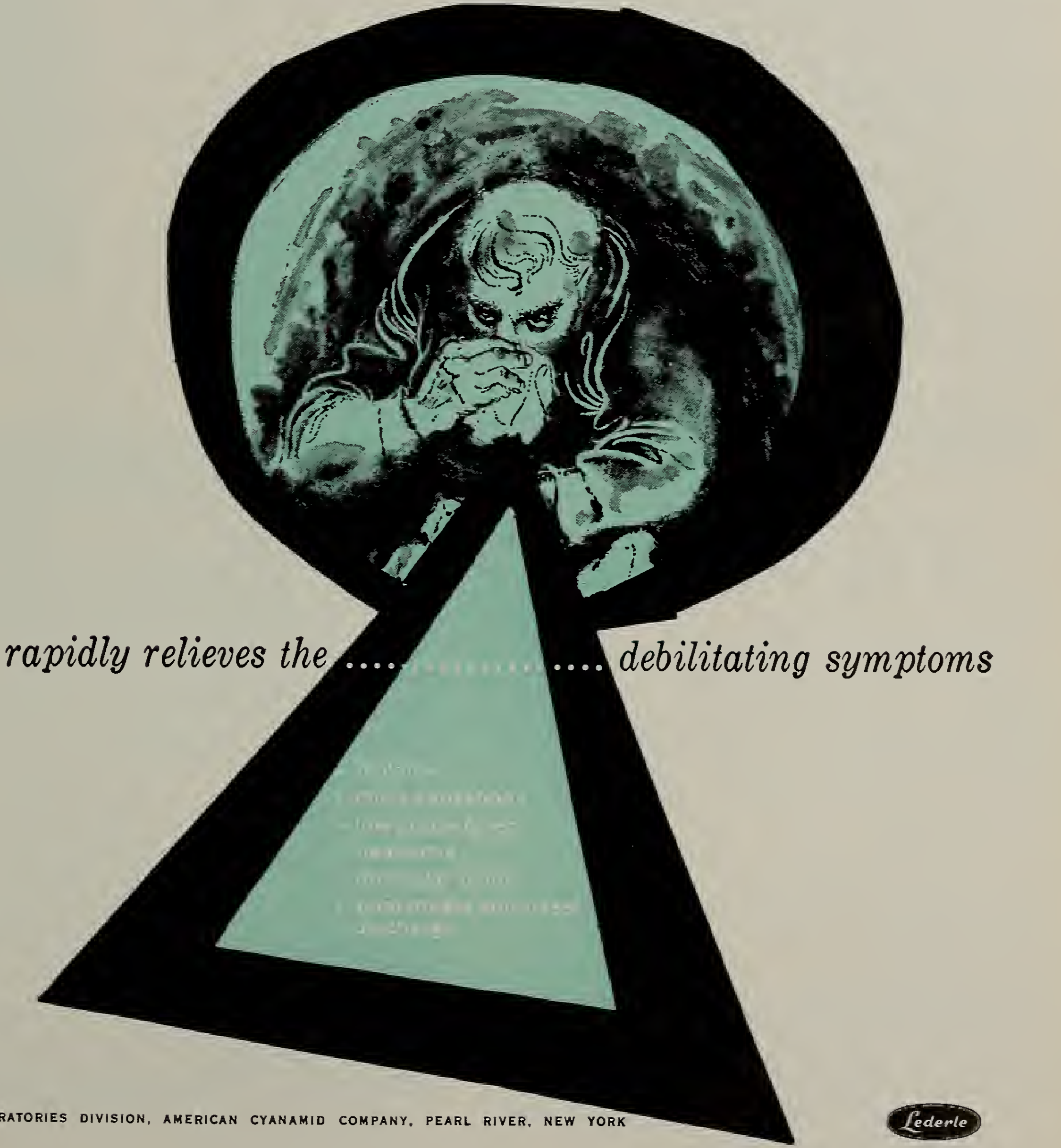
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(Continued in Back Advertising Section, Page 65)

American Hospital Association Expresses Its Views on Forand Bill

Following is a letter written by President Tol Terrell to members of the American Hospital Association concerning the Forand Bill which is now pending in Congress. Mr. Terrell, who is administrator of Shannon West Texas Memorial Hospital, San Angelo, Texas, expresses the association's policy in this important legislative matter. Attached to his letter, dated December 2, was a Statement on Financing of the Hospital Needs of the Retired Aged as approved by the Board of Trustees of the American Hospital Association.

Dear Member:

We understand that material concerning the Forand Bill (H.R. 9467) and the use of the Social Security mechanism to meet the health needs of the aged has been sent to hospitals and their chiefs of staff throughout the nation.

I am sending this letter to all members of the American Hospital Association so that your Association's position in regard to this may be explained as clearly as I can do it. Administrators may wish to distribute copies of this to their trustees and medical staff and additional copies can be obtained from the Association.

The Association has been extremely active in the exploration of the problem of financing hospital care for the retired aged and for possible solutions. It has been studying the problem calmly, looking at all aspects of it, listening to all points of view, and bringing to it all the statesmanship we could muster. It intends to continue this approach.

Let me give you some of the background.

The report of the independent Commission on Financing of Hospital Care in 1955 spotlighted the special hospital problems of the aged. The Association promptly appointed a special committee. After months of diligent work, a policy statement was approved by the Board of Trustees and referred to the House of Delegates which ratified it in September 1955. This policy supported federal and state matching grants to underwrite, from general tax funds, a portion of the premium for voluntary health insurance for the aged.

Little support for the Association's position was forthcoming and no action was taken. It seemed apparent to the Board that another look had to be taken at the whole problem. Therefore, another committee was named early in 1957. This committee was given a free hand to formulate a new and more acceptable approach, if one could be found. Once again, representatives of all sorts of groups, with varying points of view, were consulted. Several months after the committee had begun its task, the Forand Bill was introduced in the Congress. The committee quite properly added the Forand Bill to its field of study.

(Continued on Page 46)

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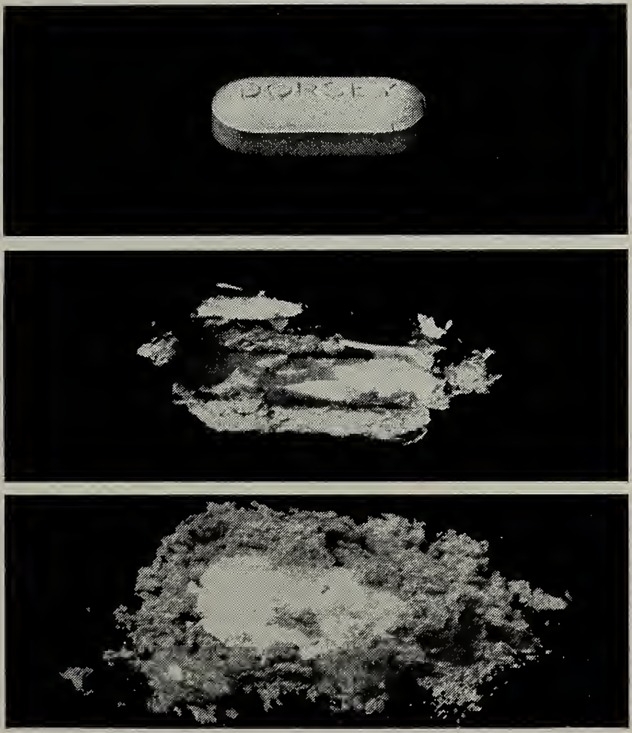

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All Buffered Pabirin is sodium and potassium free

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References: 1. Report of Joint Committee, Medical Research Council & Nuffield Foundation, Treatment of Rheumatoid Arthritis, British Medical Journal (May 29) 1223-1227, 1954. 2. ibid. (April 13) 847-850, 1957. 3. Hart, D.; Bagnall, A. W.; Bunim, J. J., and Polley, F. H.: Ninth International Congress on Rheumatic Diseases, Toronto, Ont. (June 25) 1957. 4. Lewis, L., *et al.*: Ann. Int. Med. *39*:116, 1953. 5. Demartini, F., *et al.*: J.A.M.A. *158*:1505, 1955. 6. Segaloff, A.: Ann. Allergy *12*:565, 1954. 7. Kern, R. A.: Am. J. M. Sc. *233*:430, 1957.

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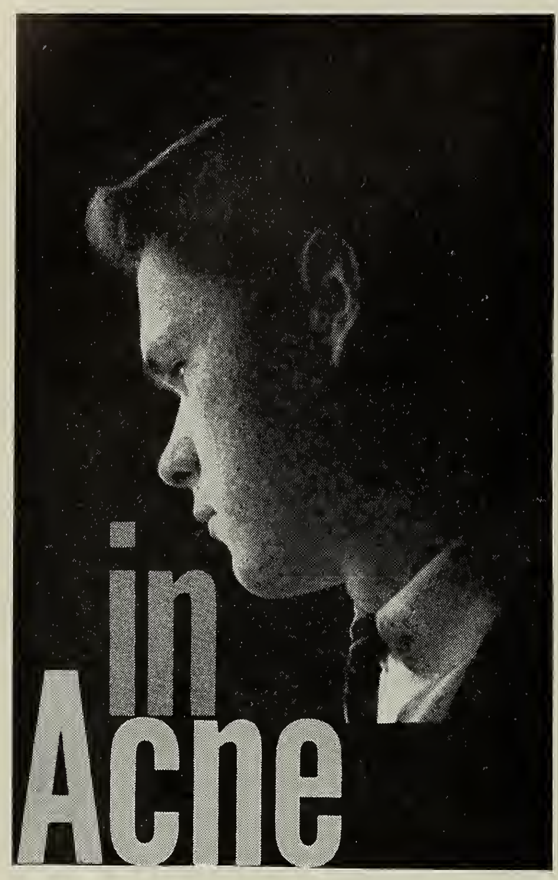

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1. Hodges, F. T.: *GP* 14:86, Nov., 1956.

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American Hospital Association Expresses Its Views on Forand Bill

(Continued from Page 40)

There were various basic positions the Association could take: Simple reaffirmation of the 1955 policy; complete hands-off; support of legislation to force improvement of insurance coverage for the aged group, and, finally, support of the Social Security mechanism as the mechanism through which hospital services for the retired aged should be funded.

Your Board of Trustees has just finished an exhaustive discussion of this problem. It has approved a statement which is appended to this letter and also has approved the appointment of a special committee of hospital trustees to assist in formulation of a policy.

I believe the Association must oppose those things it deems not in the public interest. I believe it has an obligation to propose alternatives. The Association's influence is directly related to its adherence to this philosophy that opposition alone is not enough.

We are mindful of the gravity of the problem and of the importance of the position finally taken by the Association. Being so mindful, we intend to pursue our established policy of seeking, as calmly and as wisely as we can, a solution which is in the best interests of the patients our hospitals serve.

We welcome the comments and the assistance of all of our membership in this matter.

TOL TERRELL, *President*

Statement on Financing of the Hospital Needs of the Retired Aged

Approved by the Board of Trustees, November 27, 1957

Studies by special committees of the American Hospital Association during the past three years have confirmed that retired aged persons face a serious problem in financing their hospital care. This burden contributes to the indigency and pauperization of many such persons.

Two years ago, the Association concluded after careful study that federal funds would be required if a satisfactory solution were to be found. As a result, in September, 1955, the House of Delegates adopted a policy of federal and state matching grants to underwrite, from general tax funds, a portion of the premium for voluntary health insurance for the aged.

Because of lack of support for this approach and because the problem was continuously growing in dimensions, the Association appointed a new committee early in 1957 to study the entire problem and all possible solutions.

This committee concluded that, although federal participation was still necessary, the federal-state

(Continued in Back Advertising Section, Page 52)

California
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Volume 88 FEBRUARY 1958 Number 2

Problems of Multiple Transfusions

FRANK H. GARDNER, *M.D.*, Boston

• The use of blood infusion in large amounts is increasing sharply. Increased knowledge of blood group antigens has alerted physicians to the possible hazards of hemolytic reactions to subgroups that must be eliminated by proper cross-matching techniques. Multiple transfusions of preserved blood often defeat their purpose in control of bleeding, for thrombocytopenia is enhanced. Careful selection of blood or preparations of plasma concentrates offer increased protection to the recipient.

Plastic bag equipment increases the yield of viable platelets and keeps blood in usable condition for longer periods of storage. The use of multiple transfusions has complicated the selection of preserved blood to control pigment metabolism.

DURING THE PAST DECADE there has been a sharp increase in the use of whole blood and plasma components. The vigorous orientation toward rehabilitation of patients with tumors, the greater use of corrective vascular operations and maintenance of comfort in anemic patients have required more transfusions. The expansion of blood requirements in a small teaching hospital are plotted in Chart 1. In 1956, some 4,585,000 units of blood were used in the United States, and even greater needs may be anticipated in the next decade.

The need for multiple transfusions has initiated a remarkable experiment in immunization. The blood group antigens may immunize the recipient as a result of a single transfusion, and future transfusions may become dangerous. Almost 50 blood group factors are known and new factors certainly will be defined. Many of these antigens cause only mild reactions. However, despite the routine accepted laboratory cross-matching procedures for ABO group compatability, over 90 per cent of the transfusions are potentially sensitizing to the recipient.[5] For the most part physicians can protect patients during multiple transfusion therapy if the blood is adequately screened in the laboratory with the techniques available.

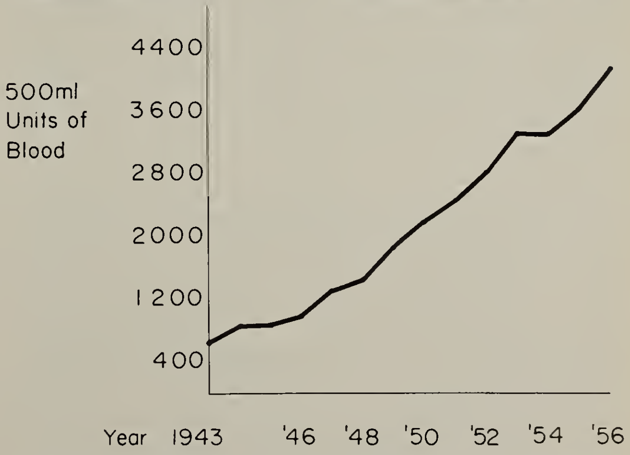

Chart 1.—Use of whole blood in a 260-bed teaching hospital in a period of 13 years (Peter Bent Brigham, 1943-1956). The massive increase in transfusions probably is best related to requirements for vascular operations.

Guest Speaker's Address: Presented before a Joint Meeting of the Sections on General Surgery and Internal Medicine at the 86th Annual Session of the California Medical Association, Los Angeles, April 28 to May 1, 1957.

Assistant Professor of Medicine, Harvard Medical School, and Senior Associate in Medicine, Peter Bent Brigham Hospital, Boston.

From the Richard C. Curtis Hematology Laboratory, Peter Bent Brigham Hospital and Department of Medicine, Harvard Medical School, Boston.

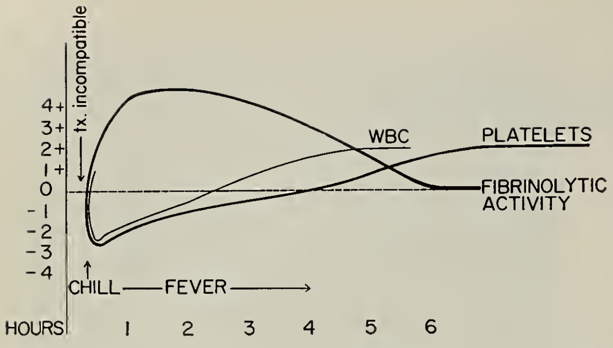

Chart 2.—Reactions in peripheral blood following mismatched transfusion reaction (tx incompatible). The increased plasma fibrinolytic activity is associated with decreased circulating fibrinogen levels. The transient placelet depression will increase bleeding tendency. Modified from Stefanini and Dameshek.[10]

When a patient has massive bleeding, adequate selection and cross-matching procedures may not be feasible. The physiologic response to incompatible blood may enhance the bleeding state. Following the infusion of mismatched blood, the platelet count declines and transient leukopenia occurs (Chart 2). Fibrinolytic activity of the plasma is activated to decrease the circulating fibrinogen level and augment dissolution of recent thrombi necessary for hemostasis.[10] Excessive oozing from tissues may alert the surgeon that a transfusion reaction exists, for anesthesia may mask the chill and fever. The bleeding tendency is increased further by the febrile response and vasodilatation. This reaction persists for several hours and may increase the blood replacement requirements. When possible, an excess of blood should be cross-matched as a safeguard against the hazard of infusing blood without proper safeguards. Patients who have had previous transfusions should be cross-matched with macromolecular substances or evaluated with antihuman globulin rabbit (Coombs) serum to exclude "incomplete" circulating red cell antibodies in the recipient. As a routine policy, in the absence of Rh-negative typing, all recipients who have received five transfusions are cross-matched with Coombs serum for antibodies.

Multiple infusions of stored bank blood collected in National Institute of Health formula A or B, acid citrate dextrose anticoagulant solution will not contain viable platelets. Excessive loss of blood and replacement with bank blood allows the platelets to be "washed out" of the peripheral circulation. Krevans and Jackson[8] correlated platelet counts of the peripheral blood with the number of units of blood infused. As blood replacement exceeds 10 units, thrombocytopenia may be a contributing factor to further bleeding. The circulating platelet levels are not always related to the amount of blood infused, but rather to the time interval in which the blood is administered. Hence, replacement of 15 units in an hour will cause thrombocytopenia, while the same amount of blood given over a period of several days may not affect the platelet count appreciably. As a precautionary policy, the blood bank personnel should alert the physician when 10 units of blood have been administered over a short interval, in order that fresh blood drawn within the hour containing viable platelets may be used. Thrombocytopenia has occurred most frequently, in my experience, during operations on the great vessels and blood replacement in patients with esophageal varices. The bone marrow does not have the capacity to replace or maintain the circulating level of blood platelets rapidly. Craddock and associates[3] demonstrated in dogs the slow recovery of the blood platelet levels after plasmapheresis brought about severe thrombocytopenia. A recovery period of three to five days was necessary for the bone marrow to achieve the pretreatment platelet level. Similar recovery periods have been observed clinically after infusion of 15 to 25 units of banked blood. In essence, a duplication of Craddock's studies may be observed by the infusion of banked blood without viable platelets. The bone marrow does not have a large reservoir of platelets available, as is the case with leukocytes, to restore the circulating platelet levels after depletion by massive bleeding.

Patients with bleeding esophageal varices and portal hypertension need special attention for blood replacement. It many instances moderate thrombocytopenia associated with splenomegaly may have existed before the bleeding episode. These patients appear to have a delayed activation of platelet response to bleeding, a phenomenon that has suggested bone marrow inhibition. Hence, one may not anticipate a rapid recovery of the peripheral platelet values after severe bleeding.[4] Patients with thrombocytopenia undergoing portacaval shunts for portal hypertension should receive platelet concentrates before operation to lessen transfusion requirements and to correct thrombocytopenia. If active bleeding prevents preparation of the patient in this way, the surgeon must recognize that thrombocytopenia may develop more rapidly after the rapid infusion of five to ten units of bank blood. Although such surgical procedures may be begun with preserved blood used at first, fresh whole blood collected in plastic bags should be used after the first few transfusions to assure adequate viable platelets.[6]

The use of bank blood for massive transfusions also carries the risk of thrombocytopenia due to plasma factors. Stefanini[11] demonstrated that stored plasma will depress circulating platelet levels by from 20 to 40 per cent.[11] The platelet depression is

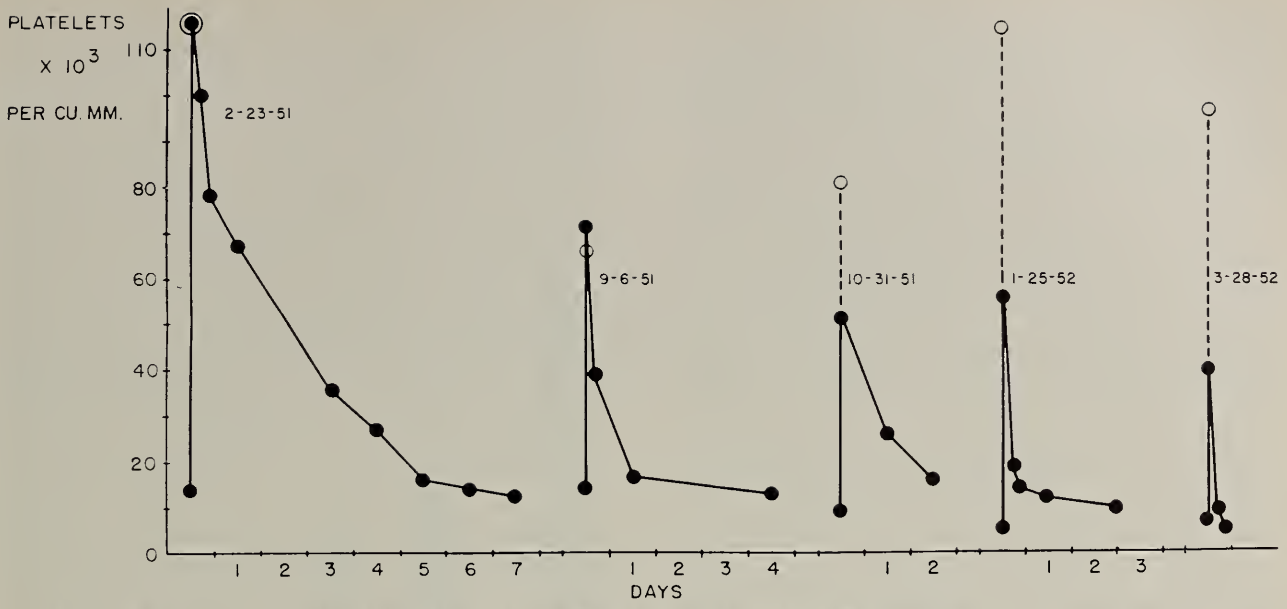

Chart 3.—Evidence of platelet sensitization in patient with aplastic anemia receiving many transfusions. Administration of fresh blood showed initially normal platelet survival of five to seven days. Gradually the survival period decreased and only a temporary appearance of platelets was measured in the patient after transfusion. The dotted lines indicate the theoretical platelet count that was anticipated. The progressive decrease in yield after transfusion suggests immediate platelet destruction as immunization developed.[6]

transient; it exists for a few hours. However, human stored or reconstituted plasma, infused as an adjunct to control hypotension, may well enhance bleeding. This complication may be of clinical importance in a severely burned patient who already has thrombocytopenia related to the injury and needs plasma protein replacement.[9] This transient platelet depression has not been observed when human serum albumin is used, which emphasizes the value of this purified material as a plasma expander.

In Table 1 the viable platelet yield of blood transfused by various procedures is shown. The numerical values for platelets in the in vitro preparation are not important, *per se,* but rather the recovery or yield of circulating (clot promoting) platelets obtained in the recipient should be considered the end point of effectiveness. A sensible program of advanced planning will prevent thrombocytopenia. A patient who has received numerous units of bank blood should have frequent determination of bleeding time. This simple test appears to be the best guide for the sum-total of vascular and plasma factors that influence clotting during multiple transfusions. A nonanemic patient with nonimmune thrombocytopenia should be protected with platelet concentrates. The hemorepellent surfaces offered by plastic bag equipment and tubing has improved the efficiency of preparing platelet suspensions, and good design has helped to insure sterility during the manipulations of centrifugation and concentration. It is important that all recipient infusion sets have protective screen filters removed for the infusion of fresh blood or platelet preparations.

TABLE 1.—*Circulating Yield (Per Cent) of Viable Platelets in the Recipient After Various Transfusion Techniques. (Platelets Are Destroyed by Centrifugation and by Contact with Glass Surface.[6])*

Transfusion Procedure and Equipment	Per Cent of Platelets Viable
Direct, silicone multiple syringe	80 to 90
Fresh (1 hour), plastic bag (ACD/EDTANa$_2$)	75 to 80
Platelet-rich plasma, plastic bag	60 to 65
Platelet concentrates, plastic bag	50 to 55
Fresh gravity collection, glass vessel	15 to 20
Stored blood, glass vessel (24 hours)	0

Many patients with aplastic anemia, leukemia, nephritis and carcinomatosis have recurring problems of multiple transfusions. Since the procedures in such circumstances are elective, the physician may be assured of compatibility of red cell antigens. However, no satisfactory techniques are available for typing of platelets and leukocytes. The value of blood administered for platelet replacement diminishes and eventually the platelet yield in the recipient is insufficient to protect the patient.[7,12] Transfused platelets may be followed in the recipient for five to seven days. However, if previous transfusions have immunized the patient, the infused platelets may disappear within minutes (Chart 3). The rapid destruction of platelets may be associated with flushing, tachycardia and fever. A similar immune response may be observed following leukocyte sensitization from multiple transfusions. In addition to high fever, severe hypotension and cyanosis may occur, and transient pulmonary infiltrates may be observed in x-ray films.[1] These findings suggest that the leukocytes are agglutinated by white cell antibodies in the recipient from previous transfusions, and that the agglutinated leukocytes are trapped in the pulmonary capillaries.

The severity of these reactions may be altered by centrifuging whole blood and removing the buffy coat before the transfusion. Washing the red cell mass with saline solution will adequately remove leukocytes and platelets from blood to be given to a highly sensitized recipient.[2] In retrospect, probably many febrile reactions classified previously as "plasma protein reaction" in reality were immune responses to leukoagglutinins. If a physician elects to give multiple transfusions, only the red cells should be infused. Removal of the plasma and buffy coat will lessen sensitization of the recipient.

Little interest has been directed toward problems of clinical citric acid intoxication during the transfusion of citrated blood. However, elevated blood citrate levels with intoxication may be seen in patients with liver disease, or during rapid or prolonged transfusions of bank blood. In most normal adults citrate toxicity will not appear until the infusion rate exceeds 5,000 ml. of citrated blood per hour. This rate is now seen frequently with severe bleeding problems (esophageal varices and vascular operations). A patient with impaired liver function or obstruction to the great vessels of the abdomen during vascular operations is liable to have citrate intoxication. Although depression of serum ionized calcium levels and elevated serum citrate levels may be observed, the mechanism for hypotension and altered electrocardiographic patterns may be associated with altered relationships between calcium and potassium ions in the extracellular fluid of the myocardium.[12] Decalcified blood collected from donors by passing across a cation exchange resin should be considered when multiple transfusions are given rapidly.[14] Accessory clotting factors are not altered in decalcified blood, and such transfusions are of real value for patients with severe liver disease. The rapid infusion of calcium-depleted blood will not depress circulating serum calcium levels and interfere with the blood coagulation system. Use of blood with calcium removed for replacement is more ideal than efforts to replace calcium salts parenterally when using citrated blood. If blood decalcified by cation exchange is not available, the hazards of citrate infusion may be controlled in part by more vigorous use of sedimented red cells with plasma expanders to limit the volume of citrated plasma.

Under present regulations most blood banks will retain blood collected in glass bottles with acid citrate dextrose (ACD) anticoagulant solution for 21 days. At the end of three weeks 70 per cent of the preserved red cells are viable after infusion into a recipient. The 30 per cent nonviable red cells are destroyed rapidly during the first 24 hours. If a patient receives only a few transfusions, this does not raise circulating pigment to hazardous levels—namely, about 60 ml. of red cells per unit of blood. If the bank blood has been stored for less than 21 days, the proportion of nonviable red cells will be smaller. If large quantities of blood are required to control bleeding, the physician should recognize that the recipient may have some embarrassment in handling blood pigments derived from the nonviable red cells in preserved blood. Improved viability of red cells may be obtained by collecting blood in plastic bags rather than glass bottles. Utilizing radioactive sodium chromate to evaluate the life span of red cells in recipients, Strumia[13] concluded that blood preserved in plastic bags at 5°C. for 21 days had 87 per cent viability in contrast to 70 per cent in standard glass bottles. Similarly, Walter and co-workers[15] noted 84 per cent survival of blood collected in plastic bags. This method of preservation offers additional protection to decrease the blood pigments that the recipient's reticuloendothelial tissues must handle when a large amount of blood (perhaps the entire blood volume) is replaced with massive transfusions of preserved blood.

The demand on the recipient to clear the plasma of red cell pigments is met in most instances. But the presence of liver disease prevents rapid reduction of plasma bilirubin; and hypotension, along with the associated renal arteriolar vasoconstriction, sensitizes the kidney's reaction to circulating oxyhemoglobin.[17] As an illustrative problem, a 52-year-old man recently underwent operation to correct aortic stenosis. The patient had congestive heart failure before operation but tolerated the procedure well, and the technical results were excellent. His blood was of Group A, Rh negative. Ten units of blood were infused and many of the bottles were close to the accepted expiration date—namely, 18 to 20 days. Because of the storage period, the patient received hemoglobin derived from 275 ml. of nonviable red cells. The stress of the procedure as well as embarrassed liver function resulted in ischemic nephrosis, which undoubtedly was more severe because of the circulating pigment (Chart 4). The patient could not accept or metabolize the destruction of the nonviable red cells and died; the result of a chemical death rather than a complication of operation. Here then is a problem that will need more careful attention in the future. Multiple transfusions should be planned, especially with elective operations, to use relatively fresh bank blood (less than five days old) to protect the patient from a

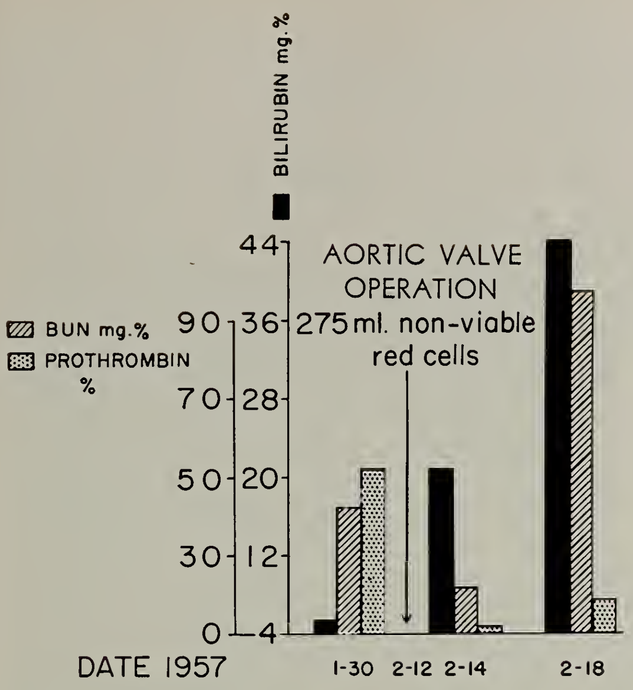

Chart 4.—Development of ischemic nephrosis following infusion of nonviable red cells from old bank blood (18 to 20 days). Progressive pigment retention was indicated by impaired renal excretion (elevated blood urea nitrogen: BUN) and inadequate liver function (depressed prothrombin per cent).

hazardous circulating blood pigment level. The presence of hypotension and poor liver function enhances the complication of acute tubular necrosis by the hemolyzed red cells. This is not a laboratory problem of cross-matching, but rather a "storage lesion" of preserved red cells.

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Parotid Sialography

Roentgenologico-Surgical Correlation in a Series of 70 Cases

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• A study was made of the correlation of sialographic, clinical and surgical observations in a series of 70 cases.

Sialography is a useful tool in the differentiation between extrinsic and intrinsic space-occupying masses in the parotid region. It permits differentiation between inflammatory lesions and neoplasms, thus eliminating needless surgical explorations. It alerts the surgeon to masses involving the deep lobe. It can be easily performed and causes little discomfort.

Bearing in mind its limitations, sialography is an important diagnostic and preoperative aid in the management of parotid lesions.

THE MANAGEMENT of parotid tumors is hazardous and any diagnostic and therapeutic aid is desirable. Sialography—the roentgenographic visualization of the ductal system of the parotid gland—has been used since 1904, with techniques that have not changed much since that time. Although many papers have been written on the subject, no attempt has yet been made to evaluate the procedure by correlating clinical, roentgenological and surgical observations.

Material

Table 1 shows the final diagnosis in 70 consecutive sialographic studies. The age of the patients ranged from 14 to 79 years. All the roentgenographic studies were done by one radiologist (R. A. J. E.) and all operations by one surgeon (S. L. P.), thus eliminating many variables and errors of comparison.

Anatomy

The parotid gland is located below and in front of the ear and in the retromandibular fossa. It extends from the zygomatic arch down to a point a centimeter or two below the angle of the mandible. It has a deep and a superficial lobe. Accessory lobes, usually located anterior to the main portion of the parotid gland and along Stensen's duct, are not unusual.

The facial nerve, which is of great surgical importance, straddles the isthmus between the superficial and the deep lobe. Stensen's duct and its major radicles are situated deep to the branches of the facial nerve. Thus, visualization of Stensen's duct will give an indication of the approximate location of the facial nerve. Masses in the deep lobe cause lateral displacement of the major ducts and thereby of the facial nerve; depending on their location, masses in the superficial lobe occasionally produce anterior or posterior displacement of the duct system.

Technique

The injection of contrast medium into Stensen's duct is done on the x-ray table, without preparation. After a preliminary flat film is taken to rule out calculi or other abnormal soft tissue or osseous shadows, the opening of the duct is probed and gently dilated with a cannula of the kind used for the lacrimal duct. Between 0.5 and 1.5 cc. of Iodochlorol,® warmed to body temperature to lessen its viscosity, is then injected through a blunt needle (20 to 23 French) with a Luerlock syringe. The injection can be facilitated by pulling the cheek forward, thus straightening the duct. The injection is made with moderate pressure and the patient warned beforehand to expect some pain while the pressure is maintained. Local anesthesia to the duct opening or instillation of a small amount of an anesthetic agent into the duct does not lessen the slight and only temporary discomfort. The optimal amount of contrast medium to be injected can be gauged by the backflow welling from Stensen's opening during

TABLE 1.—*Final Pathological Diagnosis in a Series of Cases in Which Sialographic Studies Were Done*

Diagnosis	No. Cases
A. Neoplastic lesions:	
1. Mixed tumors	28
2. Muco-epidermoid tumors	8
3. Warthin's tumors	9
4. Angioma	1
5. Giant follicular lymphoma	1
6. Lymphoepithelioma of Godwin	1
7. Boeck's sarcoid	1
8. Metastatic melanoma	1
B. Nonspecific lymphadenitis	2
C. Cysts:	
1. Ductal	3
2. Sebaceous	1
D. Sialadenitis and sialangiectasis	2
Total	58

Presented before the Section on Radiology at the 86th Annual Session of the California Medical Association, Los Angeles, April 28 to May 1, 1957

*From the Departments of Therapeutic Radiology and Surgery (Head & Neck Clinic), Cedars of Lebanon Hospital, Los Angeles.

the injection. The needle is then withdrawn and pressure is applied by means of a piece of gauze, held in position by the tightly closed jaws. X-ray films are taken immediately in the postero-anterior and lateral projections. Stereoscopic views, mainly in the postero-anterior projection, have been found most helpful. Additional contrast medium can be injected if the duct is not inadequately filled. (This was not necessary in more than a few cases in the series.)

The entire procedure takes only about 20 minutes. Swelling of the gland usually persists for a few

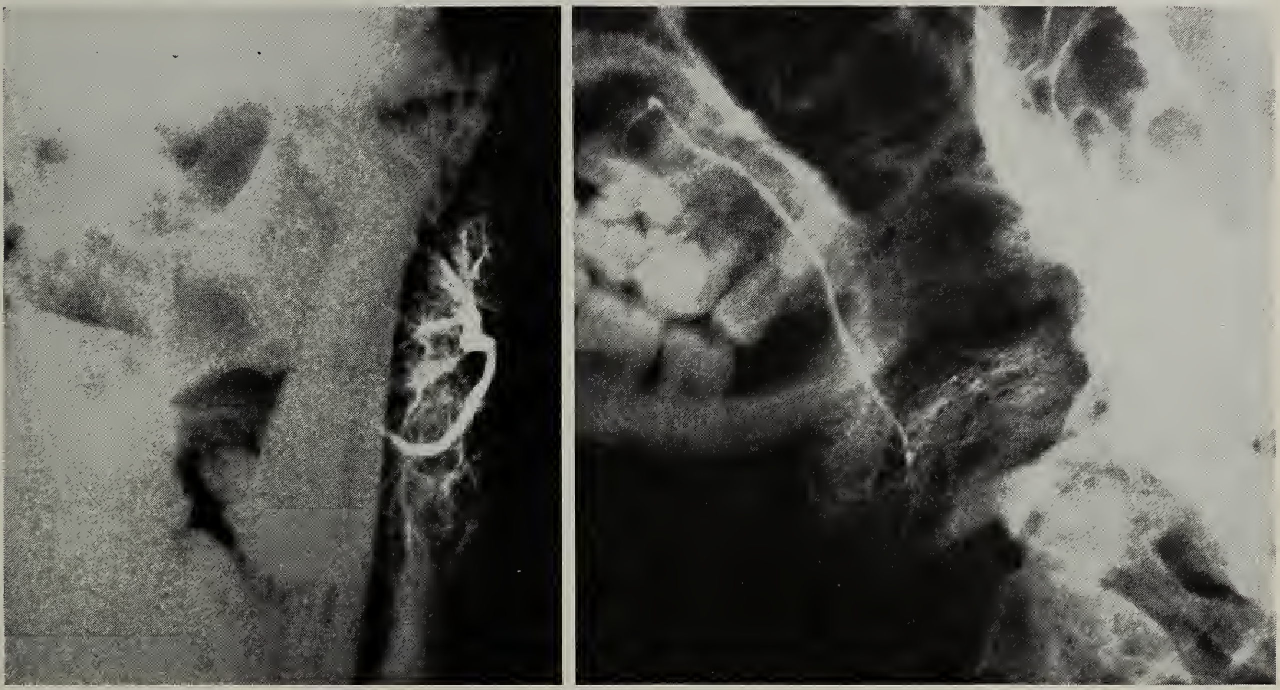
Figure 1.—Normal parotid gland. Evenly distributed "arborization" in all lobes. *Left:* Postero-anterior projection. *Right:* Lateral projection.

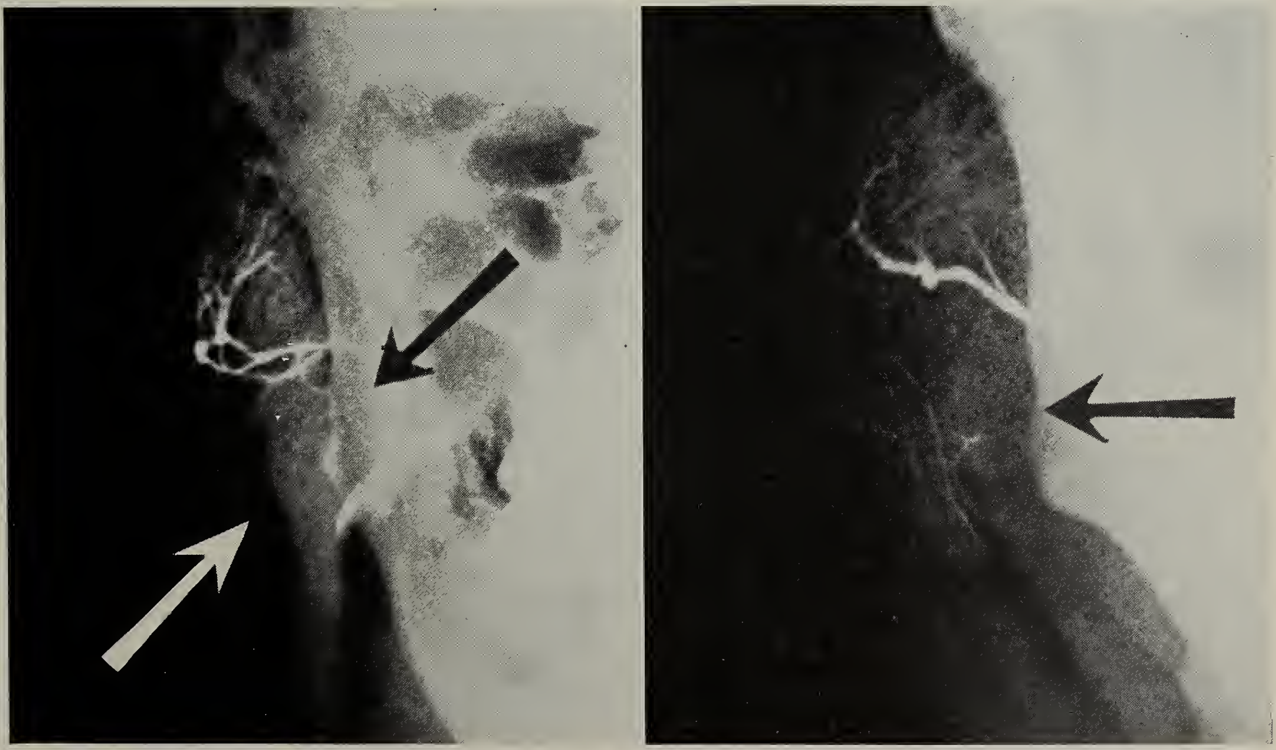
Figure 2.—Tumors in the pterygoid portion of the superficial lobe. The roentgenographic appearance of tumors in this location may be confused with that of deep lobe masses. *Left:* Indefinite mass of short duration. Infiltrating muco-epidermoid tumor. *Right:* Warthin's tumor, 2.5 cm. in diameter.

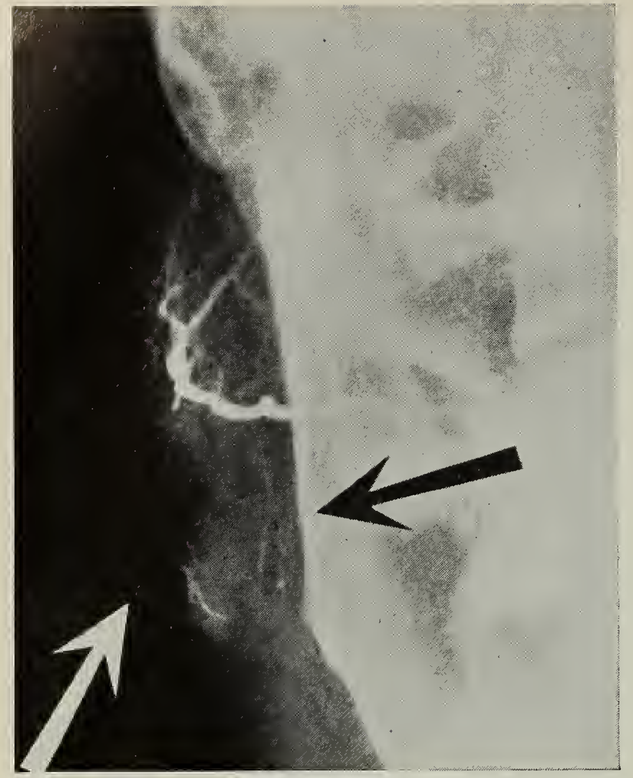

Figure 3.—Mass in the lower pole. Well-defined filling defect. Infiltrating muco-epidermoid carcinoma.

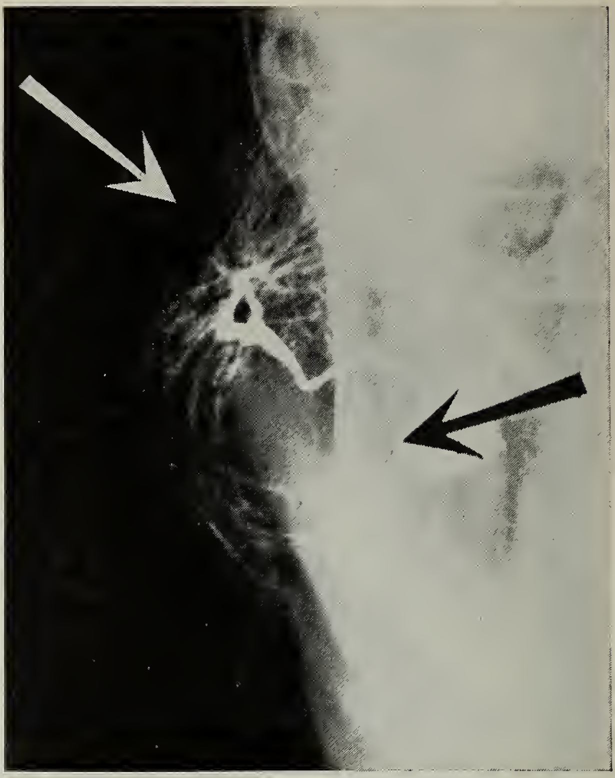

Figure 4.—Multiple Warthin's tumor, located in the pre-auricular portion, 1.5 cm. in diameter (white arrow), and in the deep lobe, 3 cm. in diameter (black arrow). The latter produces an "umbrella" effect, but may be confused with a pterygoid mass.

hours and can be overcome by massage and gum chewing. No further discomfort or complications were noted throughout the series.

Roentgenographic Interpretation

Although there are considerable anatomic variations in the size and shape of normal parotid glands and in the caliber and branching of the ductal system, it is not difficult to establish criteria of normal relationships. The normal appearance is that of a "winter tree" with evenly distributed branches gently tapering toward the periphery (Figure 1). A normal Stensen's duct is not more than 4 mm. in diameter.

Abnormal findings can be grouped as: (1) Intrinsic space-occupying lesions; (2) extrinsic indenting masses; (3) abnormalities within the ductal system.

Intrinsic space-occupying lesions are the most common findings and require anatomic localization. In our interpretation we distinguish between deep and superficial lobes, the latter being subdivided into pre-auricular, inferior pole, and pterygoid portions.

Well-defined masses may produce rounded pressure defects in the major and lesser ducts (Figures 2 and 3). Often the ducts are narrowed or stretched around the periphery of the mass, or the contrast medium does not fill the branches in the area of the mass. Deep lobe masses show a rather characteristic medial ballooning, which might be described as an "umbrella" effect (Figure 4). Masses compressing or displacing the distal part of Stensen's duct, as with tumors of the accessory lobes, are easily recognized (Figure 5).

Frequently, however, the mass cannot be clearly outlined. Then recourse must be taken to indirect evidence, such as ductal compression or displacement of a portion of the gland (Figure 2, *left*). Stereoscopy has been especially helpful in such cases. Previous operations in this region may cause considerable distortion of the normal anatomic relationships.

Extrinsic masses often cause indentation or rotation and displacement of the entire gland. Lesions of this type are due to enlarged lymph nodes adjacent to the gland, to tumors of the face and neck or to abnormal bone structures.

Abnormalities of the ductal system are usually caused by inflammatory (Figures 6 and 7) or neoplastic infiltrating processes (Figure 8). Central or peripheral calculi may be present. Occasional findings include variations in the caliber of the entire duct system, with irregular interruption of the continuity of the ducts, strictures and sacculations, the latter occurring especially at the terminal ends of

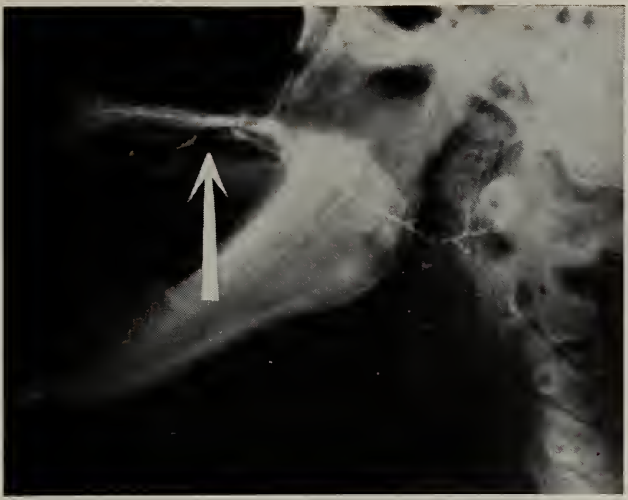

Figure 5.—Intrabuccal mass displacing the distal portion of Stensen's duct. Mixed tumor.

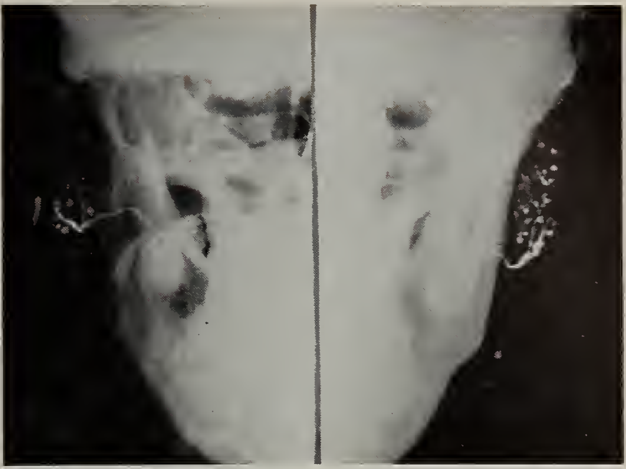

Figure 6.—Flat films demonstrate numerous small bilateral calculi. Bilateral congenital sialangiectasis. The patient had nontender intermittent bilateral swelling of the parotid glands, of long duration.

the ducts. Larger defects may form due to coalescence of smaller cavities. It is important to determine whether abnormalities of the ductal system are bilateral.

In the report on the roentgenological findings, location and size of the mass is described in detail. The possible nature of the mass is also noted—whether it might represent a solid tumor or a cyst; whether the changes suggest an inflammatory process or point to an infiltrating neoplasm; and finally whether there is suspicion of congenital sialangiectasis. Intravasation of opaque material would indicate cyst. Bilaterality in a patient of the younger age group would alert suspicion of congenital inflammatory process. Roentgen features typical of infiltrating neoplasm are shown in Figure 8.

Analysis of Roentgen Findings

In the 70 cases in which sialography was done, 36 space-occupying lesions were identified in the superficial lobe, 14 in the deep lobe, and three in accessory lobes. Two patients had diffusely infiltrating changes and nine had purely sialangiectatic changes. In six cases the findings were considered "normal." (In two of the "normal" cases there was slight displacement of the gland by what was interpreted as hypertrophy of the masseter muscle, and in one case there was generalized hypertrophy of the gland.)

Analysis of Surgical Findings

Fifty-eight patients were operated upon for total or subtotal removal of the gland. Included were all but one* of the patients' space-occupying masses; the two with diffuse infiltration of the gland; two patients with advanced sialangiectasis and sialadenitis. Two of the patients with normal x-ray findings but with palpable nodules were operated upon. One of them had had a mixed tumor removed previously. We found and removed two small recurrences. In the other case we found an enlarged lymph node, located superficially but within the substance of the gland.

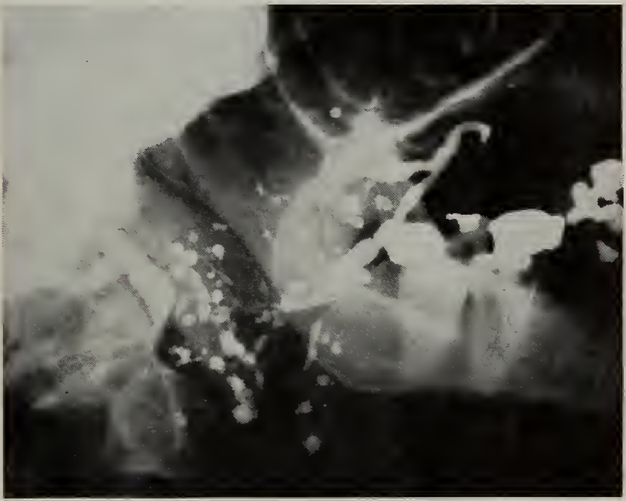

Figure 7.—Extensive sialangiectasis.

Correlation of Roentgen and Surgical Observations

The x-ray diagnosis proved correct in 50 of the 58 cases. In three cases in which the roentgenologic diagnosis was deep lobe masses, tumors in the pterygoid portion were observed at operation. The tumors were bulky and had an "umbrella" effect. In four other cases, roentgenographically the neoplasm was thought to involve the pterygoid and inferior portions but at operation was found to be in the deep lobe. These masses were all located posteriorly. In one case in which the roentgenogram was interpreted as normal, a small, superficial lymph

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*The patient, 79 years of age, had an easily palpable and visible mass, 2 cm. in diameter, in the pterygoid portion. According to the history the mass varied in size; one week later it had disappeared spontaneously, and was presumed to have been a cyst.

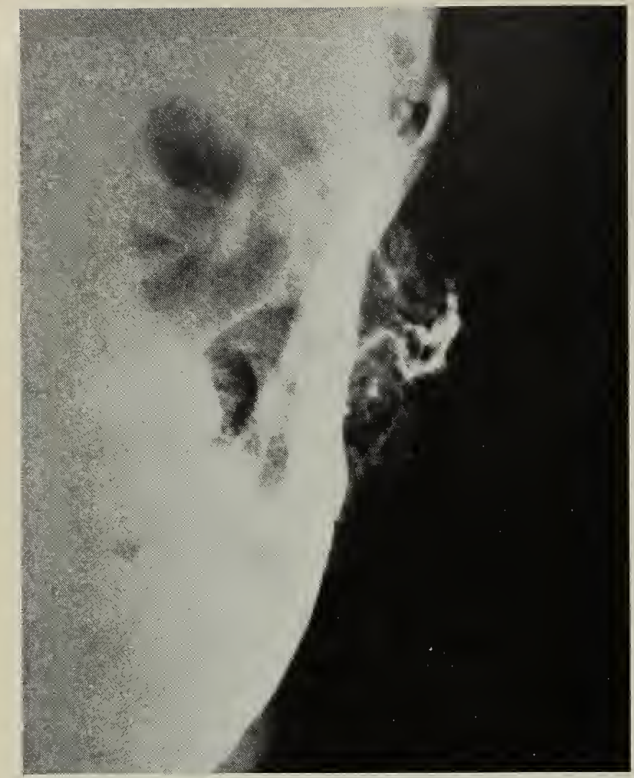

Figure 8.—Firm, diffuse tumefaction of the parotid gland, of several months' duration. Roentgenogram shows an ill-defined ductal system with variations of caliber and minimal sialangiectatic changes—typical of an infiltrating process. Subtotal removal revealed lymphoepithelioma of Godwin. Similar swelling of the opposite gland disappeared with moderate doses of roentgen therapy.

node within the substance of the gland was observed at operation.

The clinical impression—before sialography—was also correlated with the surgical findings. The clinical diagnosis was correct in 47 cases, incorrect in 11 cases. In all but one of the cases of incorrect diagnosis, tumors which were actually situated in the deep lobe had been assumed to be located in the superficial lobe.

DISCUSSION

The present-day concept of operation upon the parotid gland calls for complete resection of the entire structure, or of one of the lobes, or of at least that portion of a lobe to which a mass is confined. The excision is performed without the surgeon's ever visualizing the mass. Presurgical localization of the tumor is of great help to the surgeon, as it may prevent injury to the facial nerve. This is of special importance in deep lobe masses. In the present series such localization was attempted by careful clinical and roentgenologic studies which were then correlated with findings at time of surgery.

Roentgenological interpretation was more often incorrect when the tumor was located in the pterygoid portion of the superficial lobe, thus producing the appearance of a defect in the deep lobe. Roentgenographic findings, however, were so frequently substantiated by surgical findings that in our opinion the use of sialography in the localization of parotid masses can be recommended. Even in the few cases in which the x-ray diagnosis was not completely in agreement with the surgical findings, the roentgenogram was not misleading to the surgeon.

Sialography is of particular value in the differentiation between surgical and nonsurgical diseases of the parotid gland, and often prevents needless surgical exploration.

The primary aim of many earlier reports in the literature was to determine whether sialography is of aid in arriving at a preoperative pathologic differentiation of parotid tumors. Most of these reports agree that roentgenograms permit recognition of inflammatory diseases, but they differ widely as to the value of x-ray findings for a preoperative pathologic diagnosis. It is our impression that roentgenograms do not permit a reliable pathologic diagnosis of parotid neoplasms.

300 South Beverly Drive, Beverly Hills.

Oral Administration of Orinase® (Tolbutamide)

Clinical Observations of Effect on Nondiabetic and Diabetic Humans

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SOLON PALMER, JR., *M.D.*, and LEE S. MONROE, *M.D.*, La Jolla

EFFECTIVE CONTROL of diabetes mellitus with an oral substitute for insulin has been the goal of investigators for many years. Early attempts as with the use of guanidin, a hepatoxin, were unsuccessful and it was not until 1942 that Janbon and associates[8,9] obtained the first encouraging results in the lowering of blood sugar with a sulfonamide. Loubatier's laboratory developed the subject and showed that in the absence of the pancreas this group of compounds was not effective. In 1955 Franke, Fuchs[7] and Bertram[1] and co-workers reported a sister compound (an aryl sulfonylurea called Carbutamide® or Bz55), and found it on clinical trial to be effective in lowering the blood sugar of elderly but not of juvenile diabetic patients. Shortly thereafter, a second aryl sulfonylurea, 1-butyl-3-p-tolsulfonylurea (Orinase® or tolbutamide), was brought forward and the available data on both compounds has been summarized.[5,17]

There is general agreement that the aryl sulfonylureas can reduce blood sugar in the majority of elderly persons with mild diabetes, but there is little or no effect on juvenile diabetes, ketosis, or in patients without a pancreas. It is felt that the mechanism of action is not like that of insulin, as glucose uptake is not obtained in eviscerated animals.[15,19] The most convincing theory to date is that the aryl sulfonylureas act by direct stimulation of the Beta cells of the pancreas although the action of the liver, insulinase,[13] thyroid[17] or glucagon[1] has been considered.

The potential hazards of prolonged administration of sulfonamides are considerable and include the gamut of hypersensitivities with the common cutaneous manifestations, leukopenia and full-blown collagen disease. Several deaths[12] have been attributed to the toxicity of Carbutamide (Bz55). On the other hand, tolbutamide (Orinase) has been associated with only minor toxic side-effects such as skin rash and leukopenia.

Although the convenience of administering an oral agent is considerable, this must be weighed against the toxicity of a product of relatively low therapeutic index.

• Ingestion of tolbutamide (Orinase®) by nondiabetic humans brought about a maximum reduction in blood sugar within one to two hours. In diabetic persons taking large doses of insulin, or who needed insulin for control, hyperglycemia, ketosis, and increased excretion of glucose in the urine developed when tolbutamide was substituted for insulin or was used before insulin therapy was begun.

The only serious toxic manifestation observed was a skin rash in two patients.

Successful control of diabetes with tolbutamide was limited to cases in which the disease was of mild, stable type and the patient was 40 or more years of age, of normal weight, and with a previous insulin requirement of 5 to 30 units per day.

It was of benefit in 43.5 per cent of all diabetic patients in the series studied and in about 75 per cent of the group that might be referred to as selected. The duration of the disease and the duration of insulin therapy were unimportant in predicting effectiveness for tolbutamide therapy.

The purpose of the present studies was to observe the effect of tolbutamide (Orinase) in persons with normal carbohydrate metabolism and patients with diabetes mellitus, taken at random. Patients requiring large doses of insulin for control were given a trial on tolbutamide in combination with reduced doses of insulin.

PROCEDURE

Eight nondiabetic patients were put in hospital for two days of study and observation before the administration of tolbutamide. The subjects remained at bedrest and on dietary regulation. Glucose tolerance tests were done before admittance, and each patient had a complete physical examination, blood cell count, urinalysis, cholesterol and urea determination and thymol turbidity test on the first day in hospital. Blood glucose determinations were made at 15 to 60-minute intervals for eight hours the second day, or the day preceding the oral administration of tolbutamide, on the day of tolbutamide administration and the day afterward. Blood for fasting blood sugar determination was taken at 8:00

From the Scripps Clinic and Research Foundation, La Jolla.
Submitted July 15, 1957.

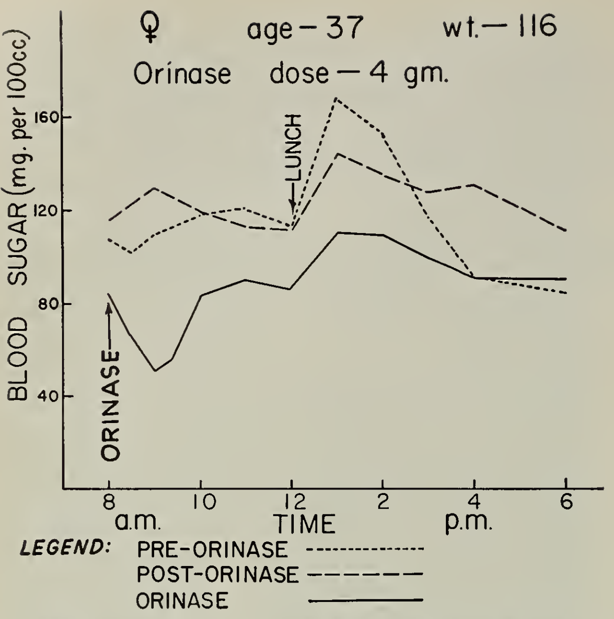

Chart 1.—Solid line demonstrates maximum response to single dose of 4 gm. of Orinase within first hour in normal 37-year-old woman. Broken lines represent blood sugar levels the day preceding and day following administration of Orinase. Subject did not have breakfast.

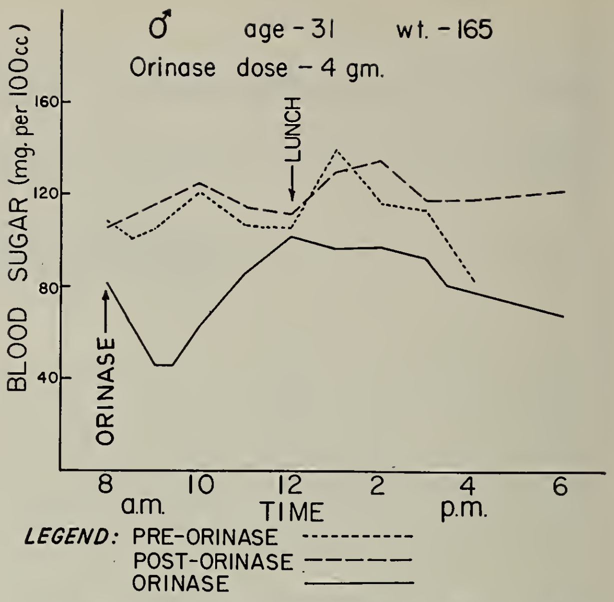

Chart 2.—Response to single dose of 4 gm. Orinase in a normal 31-year-old man is demonstrated by solid line. Note maximum blood sugar lowering effect within first hour. Subject did not have breakfast.

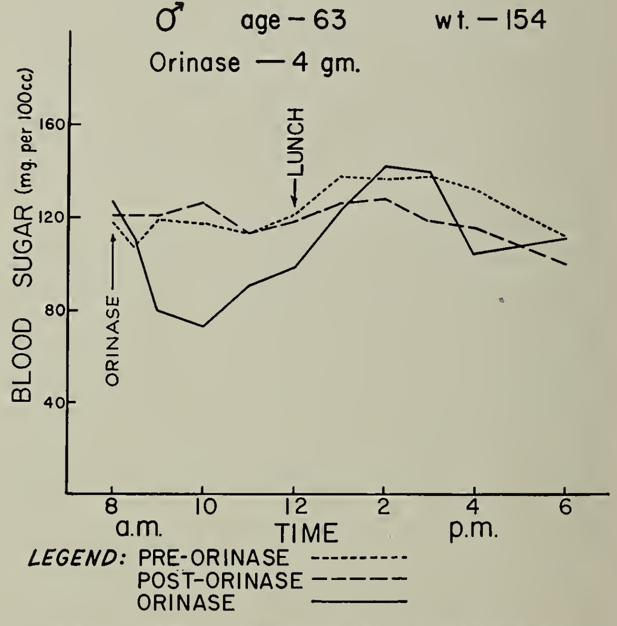

Chart 3.—Maximum effect of single dose of 4 gm. of Orinase within first two hours in 63-year-old nondiabetic man. Subject did not have breakfast.

a.m. and Orinase then was given. The nondiabetic subjects were not given breakfast.

Thirty-seven diabetic patients, including 27 taking insulin (one of whom was juvenile), were kept in hospital for from two to four weeks and an attempt was made to control the diabetes with tolbutamide alone or in combination with insulin. Before therapy, these patients had the following studies: Pulmonary roentgenogram, electrocardiogram, complete blood cell count, determinations of protein-bound iodine (PBI), iodine^{131} uptake and blood urea, urinalysis, and phenolsulphthalein, bromsulphalein and thymol turbidity tests. After therapy was begun, examinations of the urine sediment and tests for urinary albumin, as well as blood cell counts were carried out every other day. Each week a phenolsulphthalein test and blood urea determination were done, and at two-week intervals an electrocardiogram was made and bromsulphalein, thymol turbidity, protein-bound iodine and I^{131} determinations were performed. Results of these tests were within normal limits. In addition to the foregoing tests, urinary glucose excretions for 24 hours were determined. In the diabetic patients blood for fasting blood sugar determination was taken at 7:30 in the morning and Orinase was given immediately afterward. They ate breakfast at 8:00 a.m.

RESULTS IN NONDIABETIC PERSONS

Charts 1 and 2 show the effect in a normal 37-year-old woman and a normal 31-year-old man. In those patients the maximum response was within the first hour. It was within the first two hours in a 63-year-old man, Chart 3. A comparison between the effect of Orinase and Orinase sodium was observed in a woman 71 years of age, Chart 4. The major difference between these two compounds was in their solubility characteristics, the sodium salt being extremely water-soluble and the free sulfonamide form being highly insoluble. We were interested in comparing the relative activity of the two tablet formulations as far as acute blood sugar lower-

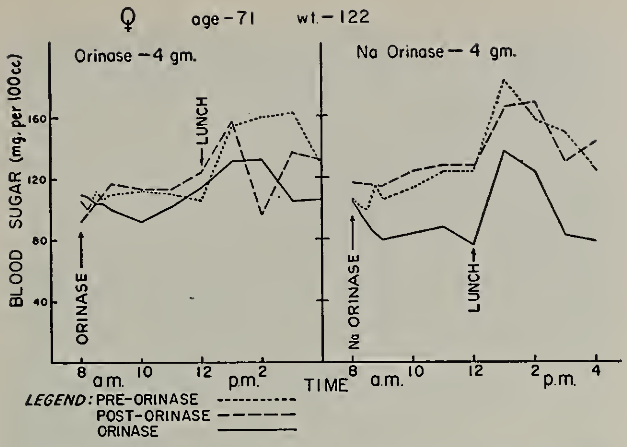

Chart 4.—Comparison of response to single doses of Orinase and sodium Orinase in 71-year-old nondiabetic woman. Subject did not have breakfast.

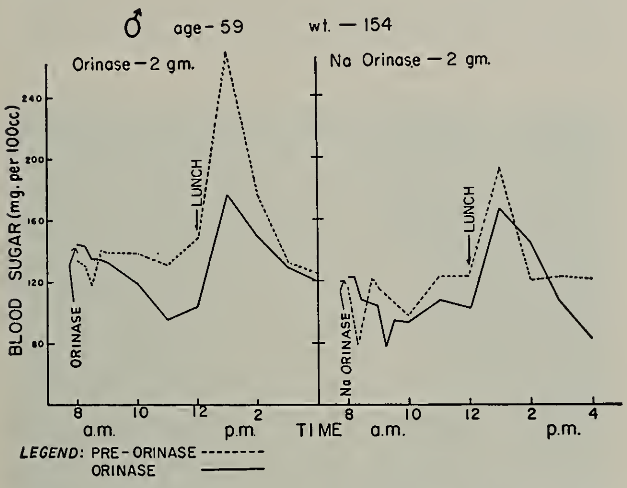

Chart 5.—Comparison of response to single doses of Orinase and sodium Orinase in a 59-year-old nondiabetic man. Subject did not have breakfast.

ing effect was concerned after oral administration. The 71-year-old woman mentioned had a delayed response in the afternoon after Orinase and the response after sodium Orinase was continued through the day.

A comparison of effect of the two drugs in a 59-year-old man is shown in Chart 5. He was one of the first patients in the investigation and at that time the dose of Orinase given to nondiabetic persons for experimental purposes was 2 gm. Later we discontinued the use of sodium Orinase because we could not see that it was more advantageous than Orinase.

In Chart 6 a comparison is made of the response in a nondiabetic woman and a diabetic woman after a single dose of 4 gm. of tolbutamide. There was a sudden decrease in the blood sugar level of the nondiabetic patient within the first hour, and a gradual decrease in the blood sugar level of the diabetic patient over five hours. Both women were 59 years of age.

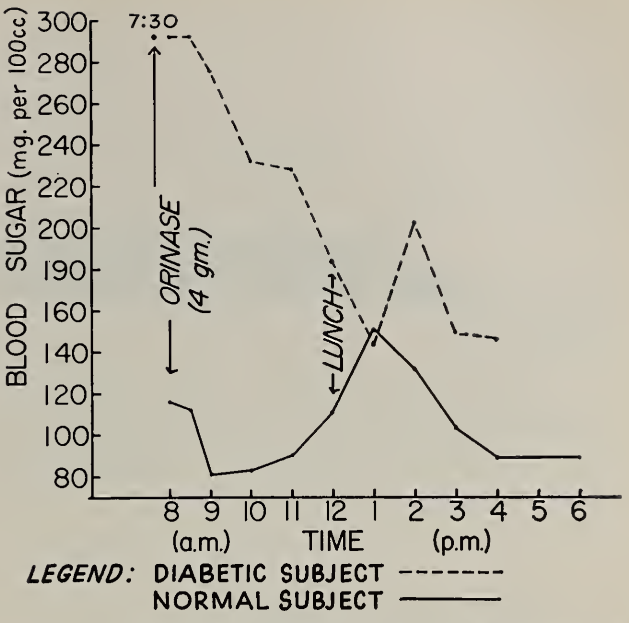

Chart 6.—Comparison of response to single dose of 4 gm. of Orinase in a 59-year-old diabetic woman and 59-year-old nondiabetic woman. Note gradual decrease of blood sugar level over five hours in the diabetic woman and sudden decrease within first hour in the nondiabetic one. Neither of these subjects had breakfast.

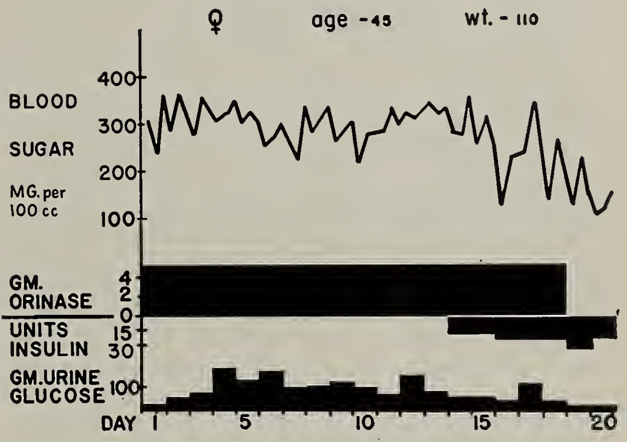

Chart 7.—Blood sugar levels and 24 hours urinary glucose output of 45-year-old woman with newly discovered diabetes during administration of Orinase for two weeks and combination of Orinase and insulin for six days.

RESULTS IN DIABETIC PERSONS

Three types of diabetic patients did not respond to Orinase. Chart 7 shows the effect in the case of a thin, 45-year-old woman recently found to have diabetes. She had never taken insulin. Her blood sugar levels and 24-hour glucose output during the time of treatment with tolbutamide are shown. Chart 8 shows the blood sugar levels of a 68-year-old white man, who had been taking 30 units of NPH insulin daily. He did not respond satisfactorily to Orinase and use of the drug was discontinued. Chart 9 shows the effect on an 8-year-old boy with newly discovered diabetes who had never received insulin. During the

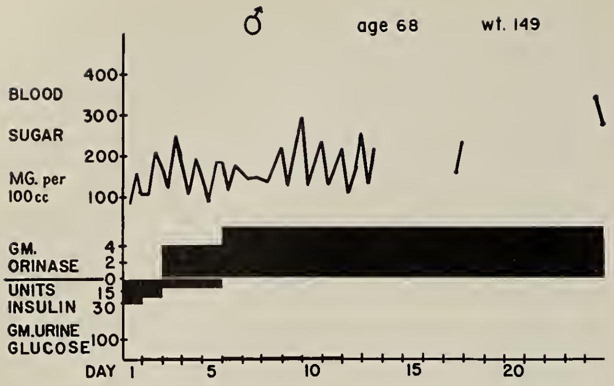

Chart 8.—Blood sugar levels and urinary glucose output of 68-year-old diabetic man who did not respond satisfactorily to Orinase. After hospitalization for two weeks he continued under observation as an outpatient.

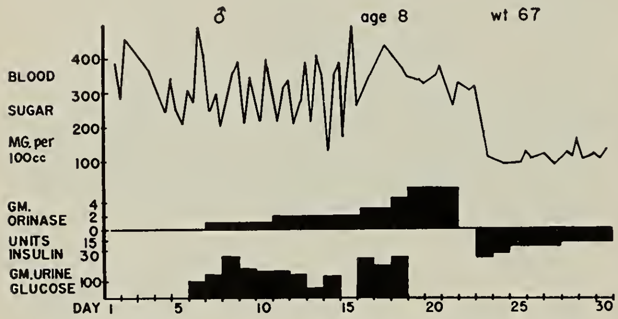

Chart 9.—Effect of Orinase on an 8-year-old boy with newly discovered diabetes. He had never taken insulin. Note the decrease in blood sugar level the first day insulin was administered after Orinase was discontinued.

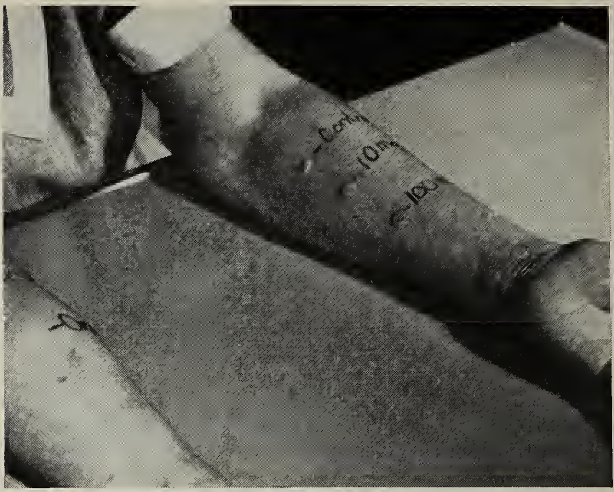

Figure 1.—Positive reaction to skin tests with 10 mg. of sodium Orinase on the arm of a patient who had had erysipeloid eruptions on face after two months of taking Orinase, then prompt clearing of lesions after discontinuance of the drug.

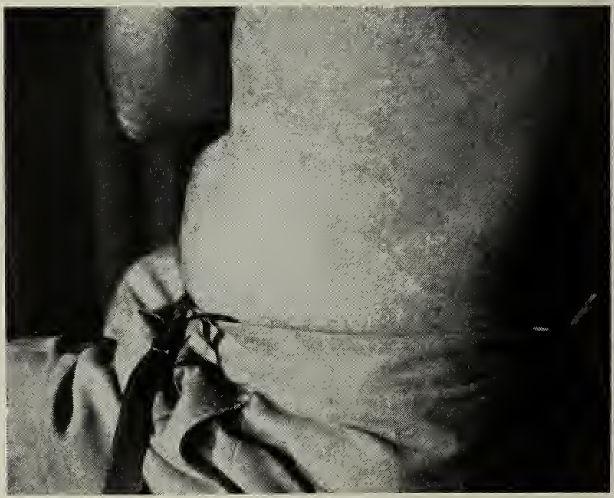

Figure 2.—Morbilliform eruption on 60-year-old diabetic man who had been taking Orinase for 14 days (4 gm. daily the first week and 2 gm. daily the second week).

last day of tolbutamide therapy the boy received up to 6.5 gm. without appreciable effect. Diabetes was eventually controlled by administration of 20 units of insulin daily, but the dramatic initial fall in blood sugar occurred following administration of 40 units for the first and 35 units for the second day.

As was stated previously, no abnormality was noted in results of the many tests made for evidence of toxicity. Crystalluria, hematuria, leukopenia and the commoner effects of sulfonamide therapy were not observed in any of the patients.

When the urine was acidified with a strong acid, a precipitate was observed. This was the oxidized form of the drug and under certain circumstances might be mistaken for albumin. However, 5 per cent acetic acid was not sufficiently strong to cause this precipitate, therefore the use of heat and acetic acid was a reliable test for albumin in the patients taking this drug.

Dermatitis developed in two patients during treatment—an erysipeloid eruption on the face in one case and a fairly generalized morbilliform eruption in the other. The erysipeloid lesion developed after two months of taking 4 gm. of Orinase daily. The eruption cleared completely within seven days after discontinuance of Orinase. Then a provocative dose of the drug was given and an exact duplication of the former lesions appeared.

Figure 1 shows positive reactions to skin tests with 10 mg. and with 100 mg. of sodium Orinase. The positive reaction at the site of intracutaneous injection of 100 milligrams of sodium Orinase was suspected to be due in part to chemical irritation, and that amount of the drug is not reliable for ascertaining hypersensitivity. The antibodies that were present in the patient with erysipeloid dermatitis were passively transferred to normal recipients. Skin tests with 10 mg. of sodium Orinase in 15 normal controls, and six normal controls receiving Orinase, gave negative reactions.

Figure 2 shows a morbilliform eruption. Hypersensitivity could not be demonstrated by skin tests with sodium Orinase.

One patient with successful control of diabetes objected to taking tablets and stopped the drug.

In the group of 17 patients requiring insulin for the first time or returning to insulin for control, not one was overweight or was considered to have mild diabetes. The age range was from 8 to 69 years.

In the patients requiring large doses of insulin, hyperglycemia, ketosis and increased excretion of glucose in the urine occurred when an attempt was made to substitute Orinase for insulin.

Table 1 summarizes the essential data on the 16 successfully treated patients. All were 44 years of age or older: the range was from 44 to 70 years, and the average age 59 years. No patient who required large doses of insulin could be successfully managed with tolbutamide. Daily insulin requirements of patients with successful control by tolbutamide varied from 5 units to 30 units and the mean was 16 units. In patients who were not managed adequately with tolbutamide, control was reestablished on the same dietary regimen and insulin dosage as had been employed before the experimental period.

Urinary excretion of sugar was measured before and during tolbutamide therapy. When diabetes was well controlled by insulin, the average daily excretion of sugar was 2.6 gm. with ranges from 1 to 9 gm. With tolbutamide therapy the average daily excretion was 1.8 gm. and the range was 0.3 to 6.4 gm. Although these differences are small, they probably reflect the longer and more evenly sustained hypoglycemic action of tolbutamide. Dosages of tolbutamide varied. At first each patient was given 3 gm. daily in divided doses. Adjustments were made periodically thereafter in accordance with the individual needs as indicated by repeated determination of the content of sugar in the blood and urine. Doses as high as 6 gm. a day were used, but in general when results could not be obtained with 4 gm. daily, larger amounts were of no avail.

TABLE 1.—*Data on Group of 16 Patients Treated Successfully with Orinase*

	Average	Range
Age	59 yrs.	44-70 yrs.
Insulin units required daily	16	5-30
Orinase dosage (gm./day)	3	0.5-6
24-hour urinary glucose (gm.):		
On insulin	2.6	1-9
On Orinase	1.8	0 .3-6.4

COMMENT

Of the 37 diabetic patients taken at random who were treated with tolbutamide (Orinase), control of diabetes was considered adequate in 16 (43.5 per cent). This is a somewhat lower proportion than the 81 per cent[16] and 73 per cent[2] reported by other investigators, but it compares relatively well with the 48 per cent reported by Camerini-Davalos, Marble and Root[3] in a series of cases selected to include only diabetes of the adult or stable type. Similarly, in another series 80 per cent of more than five hundred ambulatory adult diabetic patients had adequate control with tolbutamide alone.[6] In the present series, control was satisfactory in 16 of the 21 patients who were considered most likely to respond to treatment wih tolbutamide. Criteria for success in this series were as follows:

1. Maintenance of reasonable blood sugar levels (less than 180 mg. per cent three hours postprandial)
2. Reasonable 24-hour urinary excretion of sugar (less than 7.0 gm.)
3. Prevention of ketosis
4. Absence of symptomatic hypoglycemia
5. Tolerance of drug without toxicity.

As was mentioned in a recent editorial,[4] there are many persons with mild diabetes who border on requiring insulin, or who refuse to take insulin for moderate hyperglycemia. More exact control may be possible with tolbutamide, and in the absence of toxicity this advantage should probably be utilized until relationships between inadequate control and severity of complications are more precisely defined. In the present series no patient, whether successfully treated or not, responded better to a combination of tolbutamide and reduced doses of insulin than to tolbutamide alone. All patients responding well to tolbutamide in this series were surveyed in an effort to unveil any possible common denominators. In general, the following factors applied uniquely to the group in which control was obtained with tolbutamide:

1. The patients were more than 40 years of age.
2. The disease was of the milder, more stable type.
3. Insulin requirements were minimal to moderate.

There was no specific correlation between duration of diabetes and probability of favorable response to tolbutamide. Of much greater importance was the character of the diabetes present. All who responded well had adult, stable diabetes. Hypoglycemic reactions often occurred in normal volunteers who were given tolbutamide, but such reactions were quite rare in patients having diabetes.

Frequent follow-up studies on this original group and other successfully treated patients for a period of 14 months indicated that there is a tendency for the blood sugar level to decline gradually in many cases. Consequently, we have been able to reduce the dosage of tolbutamide to 0.5 gm. daily in such patients.

ACKNOWLEDGMENTS

Grateful acknowledgment is made to Dr. C. J. O'Donovan of the Upjohn Company for supplies of tolbutamide (Orinase); to Dr. Wayne Monsees, ophthalmologist, for his careful observations of the patients investigated; and to Mrs. Barbara Reeves and Mrs. Anna McEuen for their technical assistance in this study.

ADDENDUM

Follow-up studies recently showed a significant decrease in I^{131} uptake and protein-bound iodine in one patient, a 68-year-old woman, who had been taking Orinase for about ten months. The protein-bound iodine, was 6 mcgm. per 100 cc. and I^{131} uptake 11 per cent on May 1, 1956. On February 23, 1957, the protein-bound iodine was 2.9 mcgm. per 100 cc. and I^{131} uptake on February 26, 1957, was 5 per cent. Orinase was discontinued on February 27, 1957, and two days later on March 1, 1957, the I^{131} uptake was 22 per cent. Physical examination and interval history gave no evidence of hypothyroidism.

The beneficial effect of tolbutamide seems to have become exhausted in another 44-year-old woman who had been receiving the drug for ten months. Blood sugar levels three hours postprandial are now above 180 mg. per 100 cc., and it has been necessary for her to resume use of 20 units of NPH insulin daily for proper control of diabetes.

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Prosthetic Arteries

Resection of the Abdominal Aorta and Replacement with Plastic Materials

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and RAYMOND G. AUVIL, M.D., Loma Linda**

• In seven cases, nine operations were done in which arterial replacements made of synthetic fabrics were used. In three cases the operation was entirely elective, and at last report the patients were doing well. In the four other cases there were acutely complicating factors, known before operation, and the patients died although so far as functioning of the prosthetic artery was concerned there was difficulty in only one case—a leak at one of the anastomotic seams. In one case in which the synthetic material was removed after it had been in place some time, the prosthesis showed little effect of foreign body reaction.

Direct surgical operation is now an accepted treatment for aneurysmal and obliterative diseases of the abdominal aorta.

Abdominal aortic aneurysm frequently results in death from rupture of the aneurysm. Persons with abdominal aortic aneurysms have a lowered life expectancy.[4] Without surgical intervention, following perforation of an abdominal aortic aneurysm, the disease is nearly always fatal. Cooley and DeBakey,[1] Gerbode,[5] Julian[6] and Shumacker[7] have all shown that early surgical intervention can convert a hopeless prognosis into a relatively more favorable one. Wylie[9] said that whereas the mortality rate for resection and grafting of aneurysms of the abdominal aorta is about 10 per cent if operation is done before rupture of the vessel occurs, it is 50 per cent if delayed until after rupture. In view of the high incidence of eventual rupture, in most instances verification of the existence of an aortic aneurysm is an indication for operation even in the absence of pain.

Most reports of resectional operation on the abdominal aorta indicate that the replacement has nearly always been by use of a homograft. Deterling[2,3] reported a great deal of investigative work on evaluating synthetic materials and fabrics suitable for blood vessel replacement. He said that, in peripheral arteries, homografts appear to be superior in patients with segmental occlusive disease. Szilagyi[8] also expressed belief that homografts are still the best arterial substitutes.

It would appear that the most satisfactory use of a synthetic prosthesis would be as a substitute for a segment of a large caliber vessel in a relatively immobile area—the abdominal aorta, for example.

The following cases represent patients in whom synthetic prostheses have been used. The types used were either the Orlon prosthesis developed under the direction of Dr. Paul Sanger, or the Edwards-Tapp seamless prosthesis. In the one case requiring multiple operations, both were used.

Case 1. The patient, a white man 40 years of age, was admitted to the hospital June 27, 1956, with a diagnosis of obliterative arteriosclerosis of the terminal aorta. For two years he had had severe cramping pains in both thighs, hips and legs and had been unable to walk far without acute pain. Upon examination, the blood pressure was 130/77 mm. of mercury. The heart was not enlarged. All arterial pulses in both lower extremities were absent.

At operation, advanced atherosclerosis of the terminal aorta and the common iliac arteries was noted. Resection of these vessels was carried out, the proximal extent being just distal to the renal arteries. Retrograde flow was obtained bilaterally, but was less forceful on the left side. A Sanger prosthesis was used, and lumbar sympathectomy was done on the left side. After operation satisfactory arterial pulses were present at all times on the right but not on the left. The patient was discharged, ambulatory, on the fifteenth postoperative day.

The patient continued to have pain in the left lower extremity when walking, but was essentially free of pain in the right leg. It was believed that further operation could give additional relief.

Operation was done in January, 1957, to explore the arterial supply to the left lower extremity and, if possible, to provide improvement. On the left, the artery was found to be obliterated just distal to the prosthesis. The prosthesis substituting for the left common iliac artery was compressed and contained no blood up to the bifurcation. It was possible to open this limb and obtain normal arterial flow through it. An Edwards-Tapp arterial substitute was then sutured to the distal end of the reopened prosthesis proximally, and was anastomosed end-to-side with the left common femoral artery. Pulses in the left lower extremity then were excel-

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Submitted July 19, 1957.

lent. On the fifth postoperative day these pulses suddenly disappeared.

At a third operation a large embolus was found in the left limb of the prosthesis. For fear of compromising the situation on the right (the good side) by attempting complete removal and replacement of the left limb alone, it was decided to resect all the previous prostheses except for the very uppermost portion of the aortic limb. An Edwards-Tapp replacement was then used and extended distally to be anastomosed end-to-side with the common femoral arteries. Good pulses were present bilaterally at the conclusion of the operation. In the immediate postoperative period thrombophlebitis involving the deep venous system of the left lower extremity developed. The patient was discharged from the hospital March 7, 1957, ambulatory and with good arterial pulses in both feet. When examined at intervals later, he had good pulses in both lower extremities, was working, and was remarkably free of symptoms.

The excised prosthesis which had been in use for about seven months was examined microscopically and showed only mild foreign body reaction.

Case 2. A 73-year-old white man, admitted to hospital September 12, 1956, had a history of pain in the back and mid-abdomen for three months. The blood pressure was 200/100 mm. of mercury. A large pulsating mass was felt in the abdomen. No abnormal calcification or mass was demonstrated by anteroposterior and lateral x-ray views of the abdomen.

At operation a large arteriosclerotic aneurysm of the abdominal aorta was resected. A Sanger prosthesis was used, extending from just distal to the renal arteries to just proximal to the termination of the common iliac arteries. A good retrograde flow was obtained from both iliac arteries. The postoperative course was uneventful and the patient was discharged, ambulatory, on the tenth day. He was examined from time to time afterward, and good arterial circulation to the lower extremities always was present.

Case 3. A white man 65 years of age was admitted to hospital February 15, 1957, with a history of pain for two months in the lumbar area and radiating into the inguinal regions and thighs. The blood pressure was 160/90 mm. of mercury. Pulses were present in both lower extremities. Radiographs showed dilatation of the lower abdominal aorta with calcification, and dilatation of the common iliac arteries with much calcification. No abnormalities were noted in an electrocardiogram. The nonprotein nitrogen content was within normal limits.

At operation an arteriosclerotic aneurysm involving the distal abdominal aorta, the common iliac arteries and the hypogastric arteries was observed. The external iliac arteries were pliable to palpation and in very decided contrast to the involved vessels. The aneurysm was resected, the hypogastric arteries were ligated and a Sanger prosthesis was placed between the aorta and the external iliac arteries. The patient left the hospital ambulatory and with good arterial pulses in both lower extremities on the sixteenth postoperative day. He continued to do well.

Case 4. The patient, a white man 66 years of age, had been under observation as an outpatient for about one year and was known to have an aneurysm of the abdominal aorta, bronchiectasis, pulmonary emphysema and generalized arteriosclerosis. He was admitted to hospital December 26, 1956. The risk of operation in his particular case had been explained to him previously and he had decided against it. On admission, however, he was having much discomfort in the lower extremities, and for several weeks had noted swelling of both lower extremities. It was felt that the swelling was due to vena caval obstruction. The blood pressure was 124/72 mm. of mercury. The patient at this time was eager for surgical treatment in spite of the risk.

At operation, January 2, 1957, a large arteriosclerotic aneurysm of the abdominal aorta with inflammatory reaction involving the common iliac veins and the distal vena cava in a dense compressive mass was observed. The aneurysm was resected and a Sanger replacement used. The patient tolerated the procedure remarkably well and had good pulsations in the lower extremities when it was completed. The swelling in the lower extremities disappeared quickly. On the tenth postoperative day, evisceration of the abdominal wound occurred. Reclosure was carried out and the patient did fairly well for several days. He died on the twenty-fourth postoperative day, however, of bronchopneumonia, pulmonary infarct and jejunal obstruction due to adhesions.

Case 5. A white man 58 years of age was admitted to the hospital in February, 1957, after having collapsed in a physician's office. He early complained of much abdominal pain and the signs of severe shock were present. A diagnosis of ruptured aortic aneurysm had been made. At the time we were consulted the patient had been in shock for seventeen hours. It appeared that bleeding had stopped and that the most urgent problem was of blood replacement and of determining urinary function. The patient responded to transfusion and there was good urinary output in the next 24 hours. The blood pressure gradually rose to 200 mm. of mercury systolic. The patient suddenly had severe pain again and was suddenly in shock. It was felt that the only hope lay in immediate operation. A ruptured abdominal aortic aneurysm was resected and a Sanger prosthesis was used. At the conclusion of the operation the blood pressure was 120 mm. of mercury systolic and the general condition of the patient was fair. Pulses were present in both lower extremities. The patient's condition, however, did not improve, and he died seven hours after operation. At autopsy, unusually advanced and extensive generalized arteriosclerosis, pronounced coronary artery atherosclerosis and coronary occlusion with early infarct were noted. There was a leak at the upper junction of the prosthesis and the aorta. The pathologist reported that even if the patient had survived the immediate acute problems, his life expectancy could not have been more than a few months.

CASE 6. The patient, a 71-year-old white man, was first observed in the hospital in March, 1957, with a diagnosis of intra-abdominal hemorrhage due to ruptured aneurysm of the abdominal aorta. The patient was moribund, but both he and his family wished even the slight chance that operation offered. At operation a large ruptured aneurysm was found and resected. An Edwards-Tapp prosthesis was used from the level of the renal arteries to the common femoral arteries. It was necessary to clamp above the renal arteries for 33 minutes. At the conclusion the patient's immediate condition was somewhat better than preoperatively. Then, a urinary shut-down developed and the patient died the following day.

CASE 7. A white man 58 years of age entered the hospital December 5, 1956, with a history of pain in the lower abdomen and back for four months. The pain improved for a time, then became worse a month before admittance to hospital. About two weeks previously a mass had been noted in the right lower quadrant of the abdomen. Upon examination the mass was observed to be nontender and to have no noticeable pulsation. The blood pressure was 186/120 mm. of mercury. In an x-ray film of the chest, redundancy and dilatation of the aorta, particularly the ascending portion of the arch, were noted. At operation an aneurysm of the common iliac arteries and the terminal aorta was observed. Dissection had occurred and a massive hematoma occupied the retroperitoneal space of both lower quadrants of the abdomen and of the entire posterior one-third of the pelvis. The old blood was evacuated and the aneurysm resected. A Sanger prosthesis was used and it functioned well. The postoperative course was uneventful and the patient was discharged, ambulatory and with good pulses in both lower extremities, on the eleventh postoperative day. He returned to work and did well until about six months later, when he was returned to the hospital by ambulance. Shortly after admission he died of massive hemoptysis due to rupture of an intrathoracic aortic aneurysm. At postmortem examination the prosthesis was observed to be intact and functionable.

TECHNIQUE

In the operation used in the cases here reported, the anastomosis is made the same as in using a homograft. This consists of one row of continuous 4-0 arterial silk with an occasional interrupted reinforcing suture. It is important that the lumen of the replacement not be allowed to fill with blood during the period of anastomosis, as clotting will occur and may cause obstruction at some distal area in the arterial tree. There are at least two other technical points of importance. We feel that with the materials that are available at present, the prostheses should be used only as replacements for large arteries located anatomically in a relatively immobile area. In replacing the terminal aorta there is an advantage to be gained by shortening the aortic segment and proportionately lengthening the iliac segments, thereby reducing the angulation of the iliacs at the bifurcation.

COMMENT

In only three of the seven cases presented could operation be called purely elective. The three patients continue to do well. In three of the remaining cases the grave complication of dissection and hemorrhage were factors. In the other case the patient had known pulmonary disease plus the complication of vena caval obstruction.

As yet, insufficient time has elapsed to determine the long range results of the use of prosthetics as large artery replacement material in human patients. Undoubtedly, the ideal material has not yet been produced, although the improvement has been rapid.

There are several advantages of the synthetic replacements. Storage is not a problem and they are readily available. They are easier and faster to use from a technical standpoint. There is reason to believe that extensive tortuosity or dilatation will not develop in them. Certainly they enlarge the geographical horizons for saving life and limb in times of emergency.

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Malignant Carcinoid Tumor

Altered Reactivity of the Skin to Serotonin in Two Patients

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• Appropriately controlled tests were carried out in two cases of patients with carcinoid tumors and abnormal circulating levels of serotonin to verify a hypothesis that such patients would have a greater tolerance for exogenous serotonin than would normal persons. Contrary to the hypothesis, the patients had not less but more reaction to intradermal injection of serotonin than to histamine and also more reaction than normal persons.

If this altered reactivity were to be observed consistently in large series of patients with malignant carcinoid disease, it might be used as a presumptive test.

It has been suggested that serotonin may be a naturally occurring vasodilator compound important in vascular homeostasis because of its ability to regulate peripheral neurogenic vasomotor tone.[4]

The syndrome of a carcinoid tumor with metastasis is now well recognized.[3] Unfortunately the many real and surmised biological functions of serotonin are not well understood.[4]

It was conjectured that a patient with a carcinoid tumor and abnormal circulating levels of serotonin would be able to tolerate exogenous serotonin to a greater degree than a normal person, and that if so the skin reactivity to serotonin as compared with reactivity to histamine would demonstrate the phenomenon. Tests in point were carried out in two cases.

REPORTS OF CASES

Case 1. A white man 56 years of age, had flushing and peripheral cyanosis, episodic bouts of diarrhea and a large nodular liver. He had had no asthmatic-like bouts. No cardiac murmur could be heard. He received no medications in the week preceding skin testing. In roentgen studies of the upper gastrointestinal tract, pronounced hepatomegaly, with displacement of the stomach laterally and posteriorly, was noted. Excretion of 5-hydroxy-indole acetic acid in four 24-hour periods was as follows: July 17, 38 mg.; July 4, 52 mg.; June 28, 46 mg.; June 24, 45 mg. Biopsy of the liver at laparotomy confirmed the diagnosis.

Case 2. A Negro woman 56 years of age had a grade II systolic murmur heard along the left sternal border, possible beginning bouts of diarrhea, and hepatomegaly. She had had no asthmatic-like bouts, no episodes of flushing or cyanosis, no symptoms of gastric ulcer. The patient was receiving tetracycline for a urinary tract infection. Excretion of 5-hydroxy-indole acetic acid for two 24-hour periods was as follows: September 9, 129 mg.; August 21, 118 mg. Biopsy of a yellow nodule on the liver through a peritineoscope was diagnostic of malignant carcinoid growth.

The materials used were: tuberculin syringes with No. 25 (French) needles; serotonin creatinine sulfate in physiological saline solution in dilutions of 1:1000 and 1:2000; histamine phosphate solution in physiological saline solution in dilution of 1:4000; and physiological saline solution.

Method: In each case two doses, one of .05 ml. of 1:1000 serotonin and one of 1:2000 serotonin, were administered intradermally in the flexor surface of the right forearm in a proximal and distal position, respectively. Histamine 1:4000 and a physiological saline solution control were placed on the left forearm in a similar fashion.

Results

Case 1, right arm: The flexor surface of the forearm became diffusely erythematous and the finger tips became cyanotic. This occurred in slow progression and was complete in seven minutes. Then erythema slowly disappeared and the skin appeared completely normal in 25 minutes. No whealing was noted. The patient noticed pruritus without prompting. No systemic manifestations were noted. An hour later the same procedure on the other arm evoked the same response.

Left arm: At the site of histamine injection there was an area of erythema 3 cm. in diameter and a wheal 1.25 cm. in diameter, without pseudopod formation. The patient spontaneously complained of pruritus in this area. No reaction occurred at the site of saline solution injection. The histamine reac-

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From the Allergy Section, Medical Service, Veterans Administration Hospital, Long Beach 4.

Submitted October 8, 1957.

tion resolved completely in two hours and fifteen minutes.

Case 2, right arm: The two test areas become confluent in a patch of erythema 8 cm. by 10 cm. This reaction occurred quite rapidly, was complete in three minutes and had completely disappeared in seven minutes. No whealing was noted. Even with questioning, no subjective complaints were made regarding pain or pruritus. There was no fingertip cyanosis or manifestation of systemic effect.

Left arm: At the site of histamine injection an area of erythema 2.25 cm. in diameter and a wheal 2 cm. in diameter developed. One long trailing pseudopod was noted. The patient made no sensory complaint. No reaction was noted at the site of saline solution injection.

Twenty-five persons without disease were tested in a similar manner and the area erythema at the histamine injection was comparable in size to the area at the serotonin injection site. No whealing was noted in the area of intradermal serotonin in any of the controls. Eleven of the controls noted pruritus and pain to histamine and serotonin respectively. Nine reported no sensation of itch or pain. Two noted pain to both. One noted pruritus to both. One noted pain to histamine and pruritus to serotonin. One noted pruritus to histamine and no sensation to serotonin.[1,2]

Discussion

Contrary to the hypothesis, the two patients tested were not able to tolerate intradermal serotonin as well as normal persons. In supposition, one could postulate that patients with malignant carcinoid growths hyper-react to intradermal serotonin because their capillary threshold is altered by the exogenous increase of serotonin, more so than the normal.

If this altered reactivity of the skin is demonstrable in more than two patients with malignant carcinoid disease, a possible presumptive skin test is prognosticated.

Conclusion

Two patients with abnormal concentrations of 5-hydroxy-indole acetic acid in their urine had hyper-reactivity to intradermal injections of serotonin.

Veterans Administration Hospital, 5901 East 7th Street, Long Beach 4.

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Social Security Footnotes

Old Age and Survivors Insurance is a system under which the active workers and their employers are contributing the taxes necessary to pay benefits to their fellow citizens on the benefit rolls. The active workers now covered under the system must look for their own old-age benefits, not in any large measure to the Trust Fund, which is only a moderate buffer fund to cover temporary excess of benefit payments over tax receipts, but mainly to the willingness of the next generation of active workers to pay the increased taxes out of which the retirement benefits will come.

—From the Department of Public Relations, American Medical Association

Stapes Mobilization for Otosclerotic Deafness

The Monitored Peribasal Technique

VICTOR GOODHILL, *M.D.*, Los Angeles

- **Direct surgical operation on the stapes footplate region in the treatment of hearing loss due to otosclerosis has been revived.**

In the last 100 cases of a total series of 600, the peribasal stapes mobilization (stapedolysis) technique was completely successful in 62 per cent, partially successful in 29 per cent and a failure in 9 per cent.

Stapes mobilization requires precise microsurgical technique monitored by audiometry during the surgical procedure.

It appears that mobilization is the preferred approach to the surgical treatment of otosclerosis, but fenestration of the vestibular labyrinth is an important secondary procedure in some cases.

Successful restoration of hearing requires adequate mobility of the footplate coupled with physiological continuity of the drum ossicular chain mechanism.

"Clinical otosclerosis" is the most common cause of deafness in adults. Histologically, the lesion is bony dystrophy originating in the labyrinthine capsule. Starting as "otospongiosis" it matures into "otosclerosis." In its most common form, the lesion invades the anterior limb of the stapes footplate and the medial aspect of the anterior stapedial crus. This bony bridge produces a mechanical obstruction to normal transmission of acoustic energy to the vestibular perilymph. The impedance matching effect of the middle ear mechanism is thus lost and "conductive deafness" ensues. The basic cause of otosclerosis remains obscure, and there is no known method of prevention or of medical therapy.

The symptoms of otosclerosis are deafness, tinnitus, and occasionally vertigo. The onset is insidious, usually bilateral, and slow in rate of progression. It is more common in females. It starts in the second or third decade of life and usually reaches a stable plateau in the fourth or fifth decade. Usually no abnormalities can be seen otoscopically. The canal, drum, middle ear and eustachian tube are normal. Results of tuning fork tests and audiometric examination are typical of conduction deafness. The result of the Rinne test is negative, bone conduction (BC) of sound being greater than air conduction (AC), and there is a significant bone-air gap* on pure tone audiometry. Vertigo occurs in occasional cases but is not usually severe; it may resemble that of Meniere's disease.

The surgical approach to this problem had its origin in 1876 with the observation by Kessel[7] that manipulation of the stapes could improve the hearing in stapes ankylosis. Further surgical intervention by Miot[9] in 1892 showed that this idea was practical. However, for various reasons this surgical method was temporarily dropped. It was not until several decades later that an indirect or detour surgical route through the vestibular labyrinth was devised, and it was finally perfected by Lempert[8] in 1938.

In 1952, Rosen[10] revived interest in the direct surgical attack on the stapes itself. Since then the direct operation has been shown effective in a large number, perhaps a majority, of patients with otosclerotic deafness.

In view of experiences of the past few years, stapes mobilization, the direct operation, appears to be the preferred primary surgical treatment for otosclerotic deafness. Fenestration of the horizontal semi-circular canal now takes a secondary but very important position in the surgical plan. The otosclerotic patient deserves a total approach to the problem of surgical management. Ideally, the surgeon who undertakes the stapes mobilization procedure should be prepared by training and experience to subsequently perform a fenestration operation if necessary.

As has been pointed out in previous publications, physiologically the stapes mobilization (stapedolysis) approach is preferable. It is a direct operation upon the mechanical lesion and does not destroy the efficacy of the normal middle ear mechanism. It not only is of great value in patients with moderate losses who can hope for restoration of normal hearing, but is of great value in patients with far advanced disease with secondary cochlear involvement who cannot hope for normal hearing but may hope

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Presented before the Section on Ear, Nose and Throat at the 86th Annual Session of the California Medical Association, Los Angeles, April 28 to May 1, 1957.

*The bone-air gap is the expression in decibels of the degree of conductive deafness.

for a significant improvement which will permit better utilization of amplification through a hearing aid. The operation can be done on patients of almost any age, and the morbidity factor is very low. It is, however, a precise and highly intricate anatomical procedure which requires dextrous micro-surgical technique.

The fenestration operation, on the other hand, is a detour procedure which is of great value in cases of irreversible ankylosis not amenable to stapes mobilization techniques. Since the surgical approach necessitates removal of the incus and the head of the malleus, the impedance matching action of the middle ear is usually lost, and the gain in hearing is not as great as that which can be expected in stapes mobilization. Nevertheless, in properly selected cases, it will improve the hearing threshold* to at least a 30-decibel level or better, which is adequate for the hearing of speech in most situations.

In general, any patient who has clinical otosclerosis with an adequate bone-air gap and a bone conduction level not lower than 45 decibels, may be considered a candidate for stapes mobilization. There are no age restrictions, and since the procedure is done under local anesthesia with very little surgical trauma, there are no major contra-indications medically.

There has been a significant evolution in the modus operandi of stapes mobilization since the first publication of Rosen[4] when he advised mobilization via the stapedial neck with a specially curved instrument. Shortly thereafter, other investigators[2] suggested application of force through the lenticular process of the incus, through the capitulum of the stapes, and other modifications in the region of the incudostapedial joint. It was quite logical that attempts to mobilize the ankylosed stapedial footplate should begin at the incudostapedial joint, because of its anatomic accessibility and the possibility of transmitting force through the stable crura. However, it was noted that incudostapedial dislocations (Figure 1) could be troublesome, and that crural (Figure 2) fractures could be severe problems. In a large number of cases, force applied to the joint itself could give a sensation of mobilization which in fact was mobility due to crural trauma. In such cases the stapedial footplate remained ankylosed even though the stapes seemed to be mobile on digital palpation. This approach, coupled with nonquantitative, nonaudiometric evaluation of adequacy of the surgical procedure, was at fault in many failures.

Through the recognition of the importance of quantitative measurements, and the utilization of a mathematical formulation of surgical physiology through the "audiometric nomograph"[3] technique, some of the dangers that were due to inadequacies in surgical manipulation were pointed out. Recognition of these inadequacies coupled with better magnification and illumination of the fossa ovalis and stapedial crura, logically turned the attention of otologic surgeons to the footplate region.

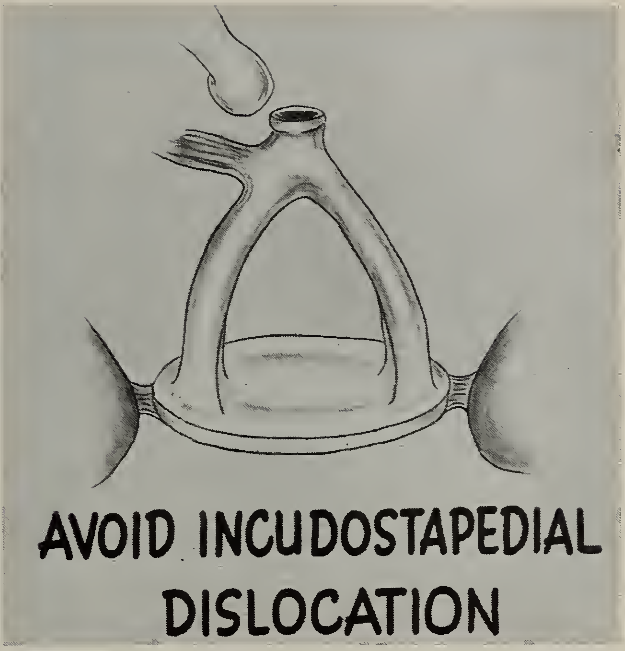

Figure 1

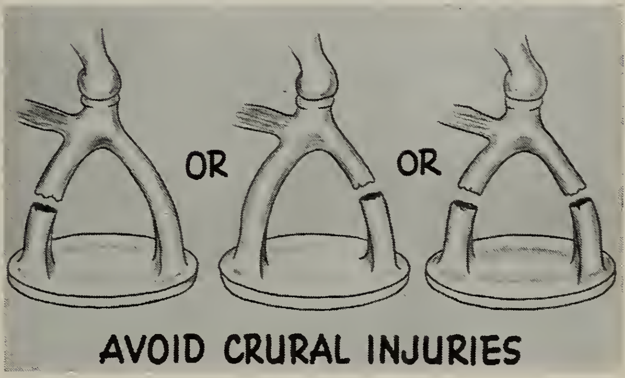

Figure 2

Methods of operative treatment of the footplate have been quite varied—of direct fractures, incisions, applications of hammer force, fenestration and peripheral curettage of the footplate region. Each of these procedures has its advocates who ascribe special merit to one or another technique. In all of these footplate approaches, there has been one area of agreement—namely, that preliminary operative results are greatly improved in numbers and in the degree of improvement in hearing.

I have previously stated[4,5,6] that the purpose of stapes mobilization should be lysis of the ankylosed stapedial footplate in such a manner that the entire footplate or a movable fragment will be in con-

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*The hearing threshold is the least intensity of sound, in decibels, that the patient can hear.

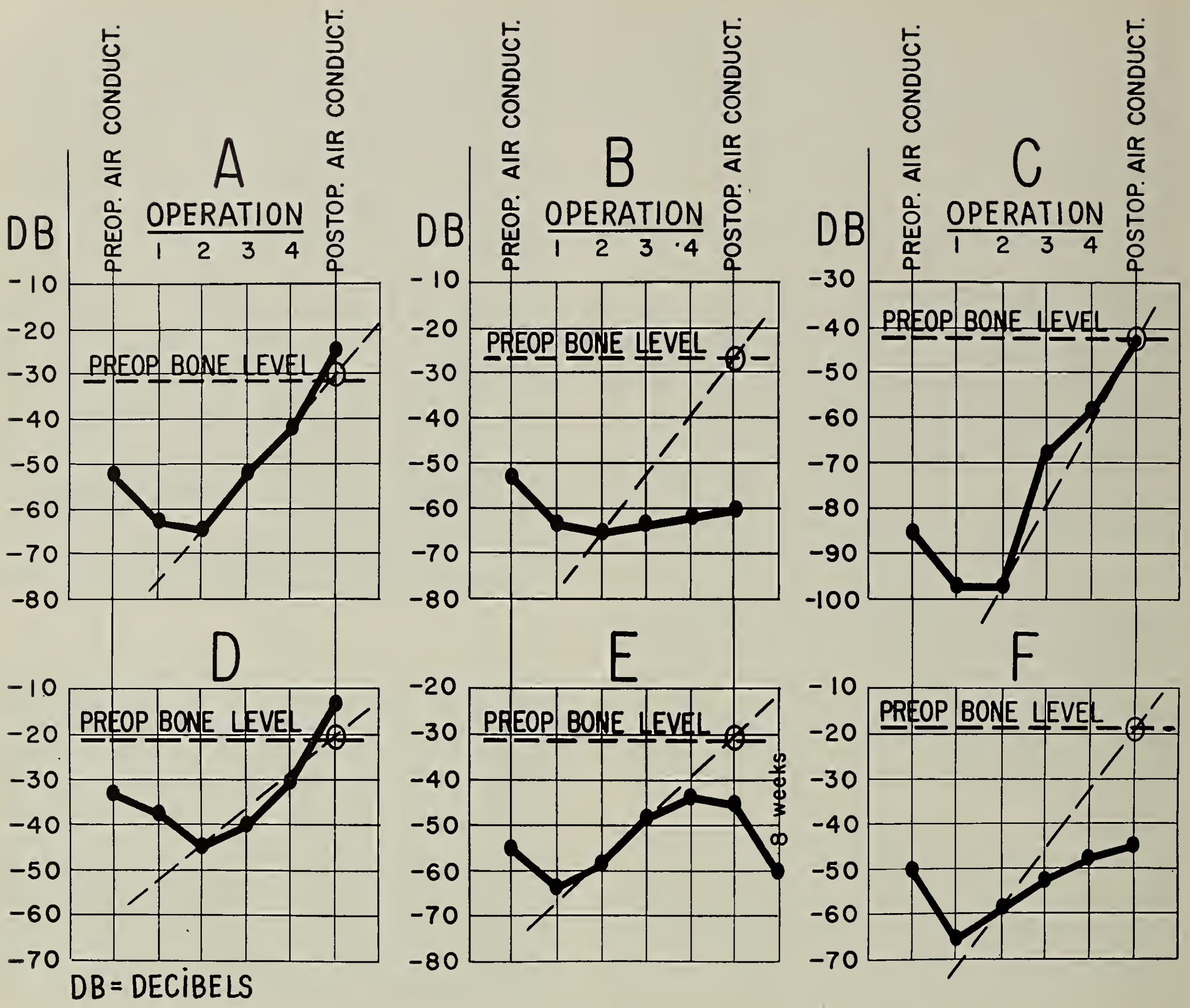

Chart 1.—Examples of results of audiometric testing from time to time during operation. The diagonal interrupted line represents the preoperative prediction. The horizontal numbers 1, 2, 3 and 4 represent various stages during the operation at which audiometric "sampling" was done to inform the surgeon how near or far he was from the desired effect. The charted results are examples of:

A, adequate stapes mobilization. Note that the dark line—showing the progress—conforms closely to the line of prediction.

B, failure to mobilize. Note that the progression line does not rise with the line of prediction.

C, adequate mobilization in a case of wide bone-air gap.

D, adequate mobilization in a case in which the bone-air gap was narrow.

E, adequate mobilization followed by early re-ankylosis of the footplate and loss of initial gain in hearing.

F, inadequate mobilization. Note that progression line shows a gain in hearing but does not conform to the predicted gain as represented by the interrupted diagonal line.

tact with the intact mobile ossicular chain, either through one or both stapedial crura, resulting therefore in either a monopod or bipod stapedolysis. This physiological objective remains a necessity.

In order to monitor the progress of applications of force to the stapediovestibular lesion, some method of physiological guidance appeared necessary. Since visual and digital information did not suffice for this purpose, the only method that could be relied upon was a "titration" based upon threshold changes as determined by audiometric studies carried out during operation.

Stapedolysis is not an all-or-none operation. True, an all-or-none approach will yield a certain number of successful results simply because of the nature of forces and resistances encountered, but a large number of failures resulted from the application of the all-or-none principle. The ossicular chain will not stand for all-or-none application of force, as is evidenced by the large number of crural fractures

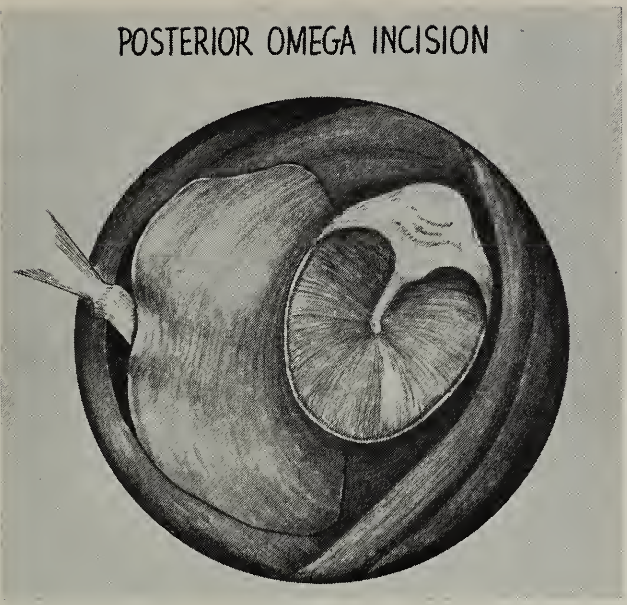

Figure 3

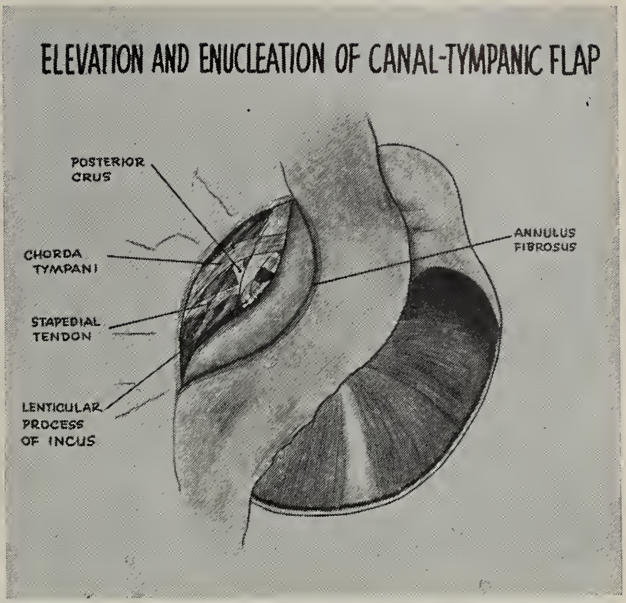
ELEVATION AND ENUCLEATION OF CANAL-TYMPANIC FLAP
POSTERIOR CRUS
CHORDA TYMPANI
STAPEDIAL TENDON
LENTICULAR PROCESS OF INCUS
ANNULUS FIBROSUS

Figure 4

and incudostapedial disarticulations reported by several investigators.

Methodical degree by degree transmission of force sufficient to produce maximum lysis and yet insufficient to disrupt the middle ear mechanism is obviously a desideratum. This guided and titrated application of force cannot be based upon simple physical measurements of the amount of force applied. Serial determinations of the hearing threshold, using audiometry during operation, are required.

It was recognized some time ago that such serial measurements must be evaluated in each case on the basis of a ratio formulated from the bone-air gap. This led to the development of the nomograph technique, which has been described in several publications previously.[3,4] The nomograph, a graph constructed according to a mathematical rule, allows the plotting of progression of the surgical procedure on the operating table and offers the otologic surgeon precise guidance as to the adequacy of lysis. It also indicates ossicular discontinuity, inadvertent footplate fenestration, round window lesions, and inadequate lysis. By using an averaging technique developed by Fletcher,[1] the Fletcher formula gives us a single figure of merit for speech reception threshold which we call the *equivalent* SRT, and this single figure of merit allows for convenient mathematical comparisons. Chart 1 illustrates typical nomographic studies in a variety of conditions encountered surgically.

A monitored peribasal technique as used at present may be described as follows:

Premedication. Simple barbiturate premedication is adequate in most cases and the exact dosage is dependent upon the age, weight and general condition of the patient. Opiates are not generally used. It is desirable that the patient be calm and relaxed but not so sleepy that accurate audiometric studies will not be possible.

Skin Preparation. Routine surgical skin preparation is used after the hair has been carefully draped and covered by a stockinet cap. Aqueous Zephiran® (benzalkonium) is used in a 1:1000 solution within the canal for purposes of antisepsis and production of drum edema to allow easier enucleation and elevation of the canal tympanic flap.

Anesthesia. The cutaneous lining of the bony canal wall is adequately anesthetized by blocking with 2 per cent Xylocaine® (lidocaine) with epinephrine 1:20,000.

Incision and Elevation of the Canal Tympanic Flap. The procedure is performed through ear specula of various sizes. Illumination and magnification must be precise and are usually obtained through headlight-loupe combinations.

An angulated circumferential scalpel is used to create a fairly large posterior omega-shaped incision as illustrated in Figure 3. This skin periosteal flap is dissected down to the tympanic annulus and the drum insertion is elevated from the bony annulus so that the middle ear is exposed in its posterior one third (Figure 4). Sufficient bone is removed from the annular margin (Figure 5) to allow for adequate exposure of the lenticular process of the incus, the stapes, the chorda tympani, the stapedial tendon, the crura, the promontory and the round window niche. All of these structures must be visualized before surgical approaches can be made safely.

Palpation of Incus. The incus is gently tested for mobility (Figure 6) by palpation with a fine angulated needle probe engaged within the lenticular periosteum. Even in the presence of a rigidly ankylosed stapes, there is a degree of mobility of the incus which is easily determined by such palpation. If the incudomalleolar joint is fixed, as it may be, in congenital anomalies or adhesive otitis media, this diagnosis is all-important. Such incudomalleolar fixation may well account, by itself, for the entire conductive loss; or, on the other hand, it may coexist with stapediovestibular fixation and cause failure if its presence is not recognized. (If incudomalleolar joint fixation is recognized, the stapes mobilization approach alone is usually inadequate.)

The integrity of the incudostapedial joint is then assessed by palpation. A loose joint will call for extraordinary care in manipulation in order to avoid incudostapedial dislocation.

Incudostapedial Manipulation. It has been my experience that rarely can transincudal or transcapitular force be used successfully in the relatively early or mild ankylotic states. It is not possible to tell, on the basis of the hearing threshold, the age of the patient or the duration of the disease whether there is only mild ankylosis. However, in many cases of the less mature forms of the disease, the ankylosis may be confined to the anterior limb of the footplate, or occasionally to the posterior limb alone. In such instances, safe lysis may be possible by force applied to the entire ossicular chain by way of the lenticular process or the capitulum. The former is preferable, since it has a slightly lesser tendency to dislocate the joint. However, if the joint is loose to begin with, it is preferable to use force on the capitulum.

The digital force used must be firm but gentle, and while force is being applied the entire ossicular chain must be observed as a *total mechanism* with special attention to the footplate region. In most successful cases there will be a general loosening and the stapes will usually be displaced slightly in a posterior direction. When effective displacement appears to have occurred, an audiometric test with nomograph guidance is obtained. Such alternations of application of force and audiometric tests are used until a decision is reached that the optimum result has been attained.

Peribasal Technique. In most instances, the approach I use is directly to the peribasal region, and not to the footplate per se. The first step is a careful survey of the footplate and contiguous areas. If such a study reveals, for example, an advanced invasion of the anterior crus and anterior limb of the footplate by the otosclerotic process, attempts at bipodal (two-legged) lysis are almost certainly doomed to failure. In such a case, the only hope of success is in monopodal (one-legged) lysis with anterior crurotomy. If, on the other hand, inspection reveals normal integrity of both crura but invasion of the footplate and ligament by otosclerotic bone, *peribasal* use of a needle probe can be highly successful and result in preservation of the anatomic continuity of both crura (bipodal with a mobile footplate)—a normal, and thus desirable, physiologic state. To achieve careful footplate lysis with attention to the foregoing physiologic principles, force can be applied digitally with needle probes of varying sizes and angles, and tiny chisels. Such instruments may also be used in severe ankylosis problems, in conjunction with an electric hammer or microvibrator.

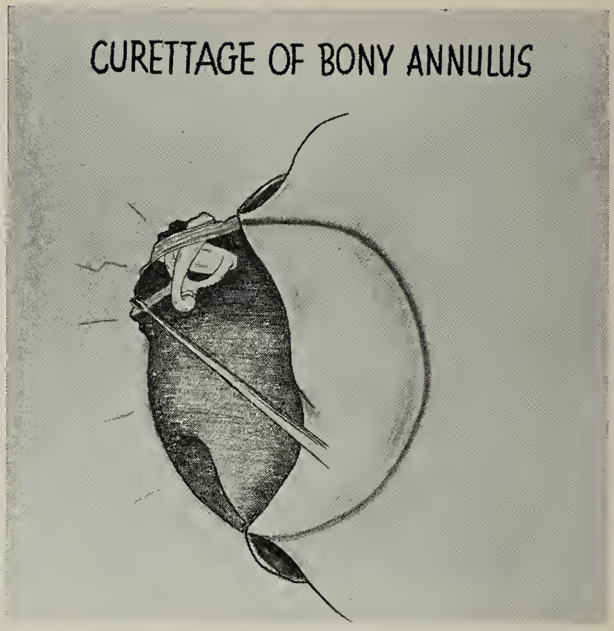

Figure 5

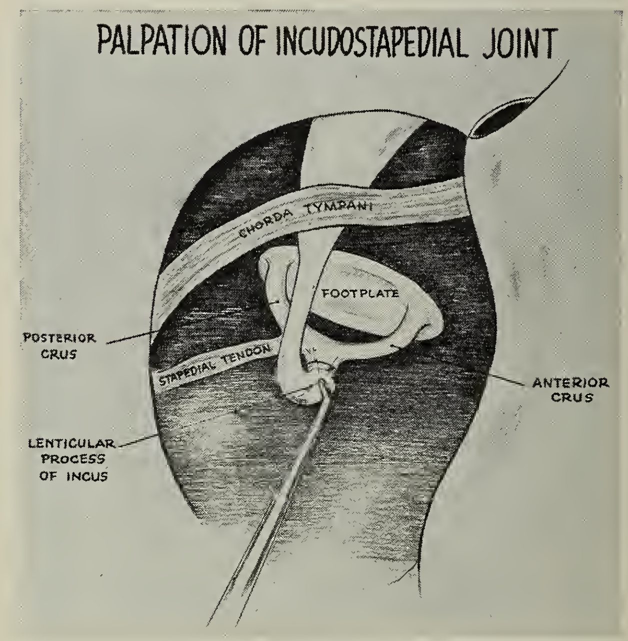

Figure 6

The survey of the footplate and contiguous area,

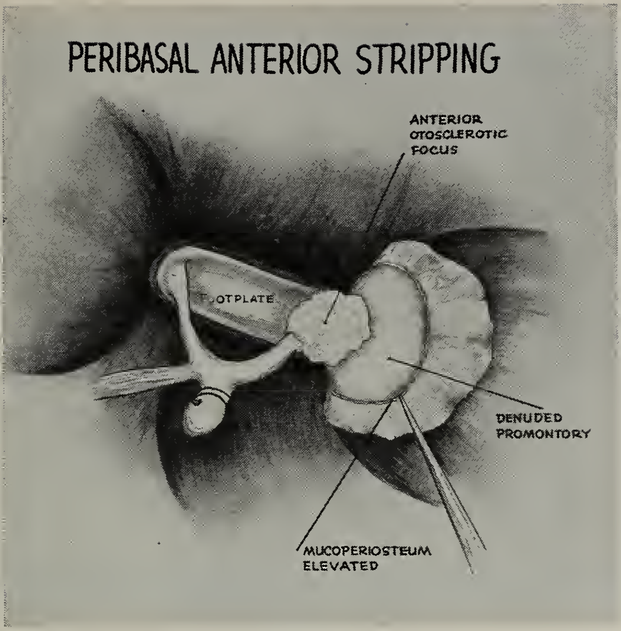
PERIBASAL ANTERIOR STRIPPING
ANTERIOR OTOSCLEROTIC FOCUS
OTPLATE
DENUDED PROMONTORY
MUCOPERIOSTEUM ELEVATED

Figure 7

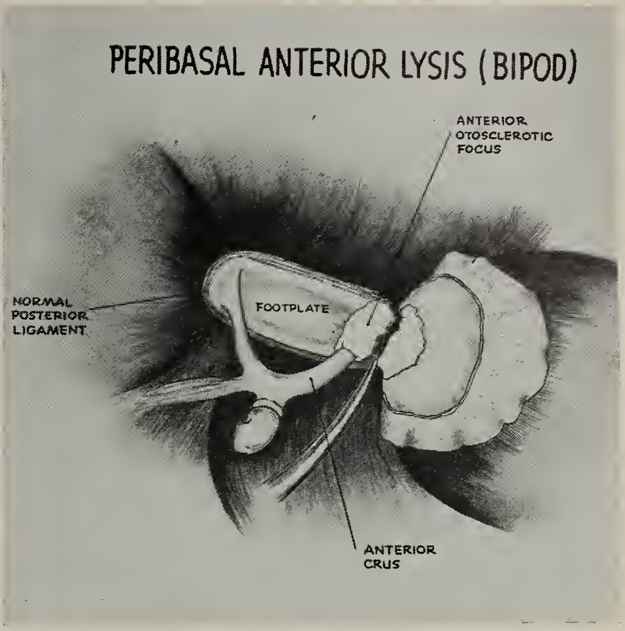
PERIBASAL ANTERIOR LYSIS (BIPOD)
ANTERIOR OTOSCLEROTIC FOCUS
NORMAL POSTERIOR LIGAMENT
FOOTPLATE
ANTERIOR CRUS

Figure 8

as referred to above, is frequently hampered by a pathologic thickening of the mucoperiosteum in the anterior crural area. Extensive otosclerotic invasion of the anterior crus, the anterior half of the footplate and the anterior aspect of the oval window niche will be accompanied by a thickening of mucoperiosteum in this area, making accurate viewing impossible. Consequently, it is necessary to strip the mucoperiosteum from this region as illustrated in Figure 7. With a small needle probe or a tiny curet, a small incision is made in the mucoperiosteum along the inferior margin of the footplate region and extending anterior to the anterior crus. This mucoperiosteal incision is carried down to the promontory bone, and the mucoperiosteum is reflected anteriorly and inferiorly away from the oval window niche. Frequently this will permit a surprisingly good view of the gross otosclerotic lesion and will enable more precise application of instruments to the peribasal region.

In using the peribasal technique to attempt bipodal lysis, it is desirable to insert the needle probe (Figure 7) first immediately anterior to the anterior crus and toward the vestibule through the region normally occupied by the annular ligament, which is frequently replaced by pathologic bony growth (Figure 8). If the disease is limited to the anterior limb, this maneuver alone may be adequate to produce lysis.

If adequate lysis is not demonstrated visually and confirmed nomographically the same procedure is carried out in a similar position posterior to the posterior crus, again through the region of the annular ligament, since in such cases there will be a lesion posteriorly as well as anteriorly (Figure 9).

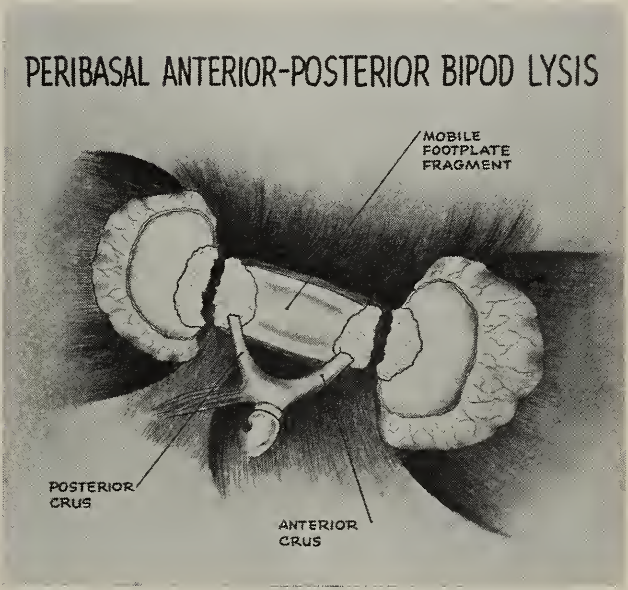
PERIBASAL ANTERIOR-POSTERIOR BIPOD LYSIS
MOBILE FOOTPLATE FRAGMENT
POSTERIOR CRUS
ANTERIOR CRUS

Figure 9

In general, bipodal lysis (Figure 10) as described above, seems more successful than monopodal lysis. This is to be expected because of the more advanced degree of disease in the cases in which monopodal lysis is done. Nevertheless, monopodal lysis has brought about satisfactory salvage of hearing in enough cases to justify use of the technique where necessary (Figure 11).

Direct fenestration of the footplate itself has been advocated by some investigators, but it appears to be an unphysiological procedure and I have not obtained satisfactory results with it.

When nomographic studies indicate adequate lysis of the ankylosis with preservation of ossicular and drum membrane continuity, applications of

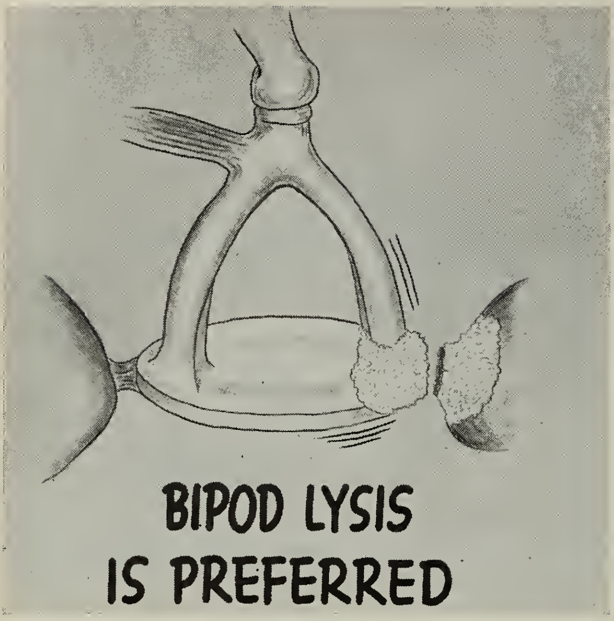

Figure 10

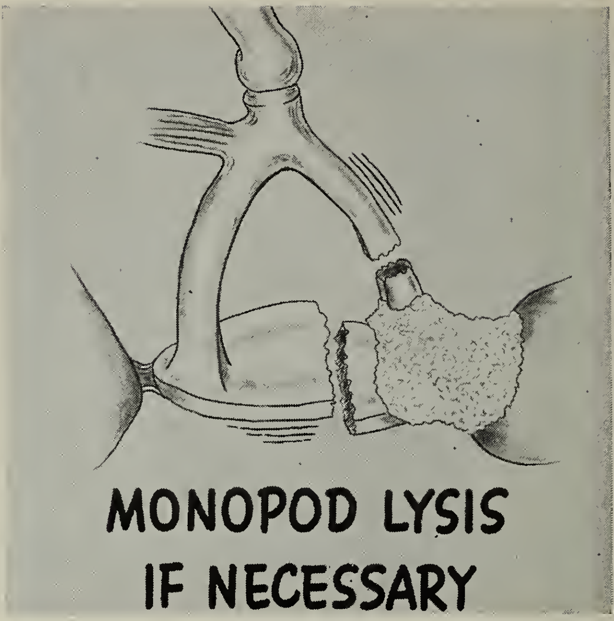

Figure 11

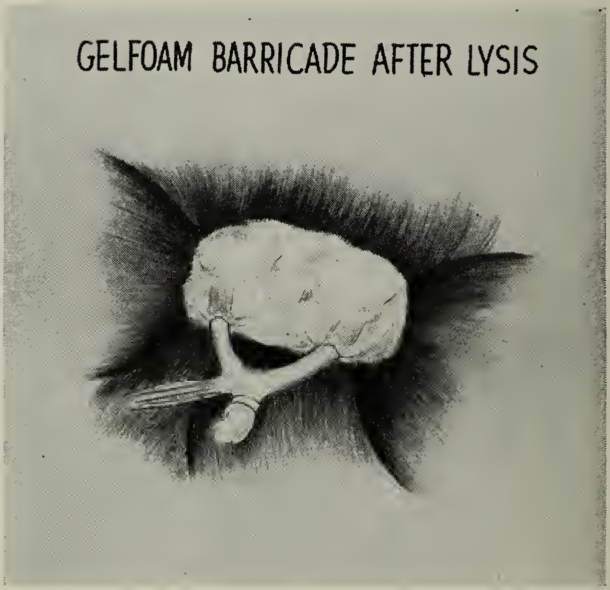

Figure 12

force are stopped and a few tiny pieces of gelfoam saturated with neohydeltrasol solution (Figure 12) are placed circumferentially in the region of the stapedial footplate. This gelfoam barricade is of value in sealing off any minute labyrinthine fractures and in protecting the perilymph space from the full impact of transtympanic airborne sound. Tests then made by surgical audiometry are more likely to be reliable and the possibility of spurious direct acoustic transmission to the perilymph can be avoided. The neohydeltrasol solution has caused no undue reactions.

Closure and Packing. The canal tympanic flap is gently replaced and carefully moved back into position. If there has been a perforation or marginal tear, it is closed by a small, full-thickness skin periosteal graft taken from the ear canal. The canal tympanic flap is covered with four or five rayon strips saturated in normal saline solution, and a few cellulose sponge pledgets saturated with cortisone ointment are placed within the canal to exert gentle pressure on the rayon gauze and on the canal tympanic flap. Such packing appears advantageous in preventing undue postoperative capillary oozing and in keeping adequate tension on the drum so that it heals with normal physiologic restoration. The ear canal is filled with cotton and a mastoid dressing applied for one day.

Postoperative Care. The patient remains in the hospital overnight, and is usually discharged the following morning unless there is unusual vertigo, which occasionally occurs. Antibiotic therapy is used on all patients, and a broad-spectrum drug is usually chosen after careful inquiry as to previous history of drug sensitization. Such prophylactic therapy is continued for five to seven days.

Vertigo occurs in about 30 per cent of patients. Usually it is utricular in nature. In most cases it is abated by giving dimenhydrinate (Dramamine®), and usually it is self-limited. In general, vertigo is less of a problem with stapes mobilization than it is in fenestration operations.

The packing is usually removed on the sixth day, following which no special measures are necessary. By that time, the skin has usually healed and edema of the drum is subsiding. The hearing usually is somewhat impaired by the packing but becomes more acute upon removal of the packing and then improves further in the ensuing week or two. Delayed shifts in the hearing threshold may occur in some cases due to hemorrhage or temporary interferences with the coupling mechanism of the ossicular chain.

Complications. No serious complications occurred in almost 700 cases. Tympanic perforation occurred in two instances. In a few cases loss of hearing increased after operation, owing to reankylosis, but there were no cases of cochlear destruction. Two patients had persistent mild utricular vertigo.

Reankylosis. Since the surgical operation is directed to the otosclerotic lesion per se, it would be expected that osseous regeneration would produce reankylosis. This does occur in some cases, sometimes soon after operation, sometimes after a considerable interval. The exact incidence of reankylosis cannot be stated at this early stage in the use of the stapes mobilization operation, but it does not appear to be higher than closure of the fenestra in fenestration. It probably develops in not more than 15 per cent of cases in which the operation is at first successful.

Reoperation is merited in cases of reankylosis. In the series here reported upon, successful results were obtained in the revisionary operations about as often as in the primary procedures. If, however, reankylosis occurs again, further revision would be justified in selected cases only. In most such cases, fenestration is indicated.

Tinnitus. In my experience, the tinnitus associated with otosclerosis disappears in most cases of successful mobilization, and persists in cases in which the operation fails. There are, however, exceptions in both categories.

Binaural Stapedolysis. Since speech audiometric studies have shown that discrimination (intelligibility) scores are considerably higher when hearing is binaural, and since binaural hearing also makes possible directional acoustic perception, it seems advisable to do binaural mobilization wherever possible. Not always, however, is the result in the contralateral ear the same as that obtained in the first ear operated upon.

Perspectives.

A. Recently this procedure has been extended to patients who do not have normal tympanic membranes by combining stapes mobilization with myringoplasty in a one-stage operation. The specific technique has been reported elsewhere.[6]

B. A conductive efficiency evaluation concept has recently been proposed by A. L. Holcomb, my research colleague, who suggests the utilization of the formula derived by dividing the bone-air gap into the decibel gain. The resulting percentage gives a reasonable measure of the conductive efficiency in restoring impedance-matching function to the middle ear or in removal of the conductive block.

Results. Postoperative results have been reported in great detail in previous papers.[4,5] The results reported are determined by appraisal of the first tests carried out approximately two weeks after operation. The terms here employed are the same as those used in previous reports, and may be defined as follows:

A. *"Thresholds."* The values of acoustic threshold are stated in terms of the equivalent speech reception threshold derived from the Fletcher formula.* Thus, since audiometric measurements vary in 5-decibel steps, the equivalent S.R.T. values used here usually vary in 2.5-decibel steps.

B. *"No Change."* The term *no change* is used to indicate a postoperative air conduction level that has not changed by more than 5 decibels, plus or minus, from the preoperative level.

C. *"Losses."* If the air conduction level after operation is 7.5 decibels or more below the level before operation, the decrease is described as "loss."

D. *"Partial Gains."* Partial gains are increases of 7.5 decibels or more in air conduction perception, but less than those defined as success.

E. *"Success."* Dual criteria must still be retained for success, since most other investigators who report on the subject are still using the fenestration criteria under which any postoperative level within 30 decibels of normal is considered successful. However, I am convinced that removal of the air conduction block (or elimination of the bone-air gap) should also be considered a "success" regardless of the final air conduction level. Since audiometric measurements are not considered accurate in measurements finer than 5 decibels, I arbitrarily assume this criterion: If air conduction after operation is not more than 7.5 decibels below preoperative bone conduction, the operation is considered successful. (In general the only confusion likely to occur from this dual definition of success lies in the region in which air conduction is between 30 and 40 decibels and bone conduction is near normal. Most of the successful cases, as judged by the 30 decibels standard only, lie in this area; and counting them as successful materially improves the results reported for such groups. Approximately 43 per cent of the successes reported qualify in both categories; the remainder are about equally divided between cases that qualify in one category only.)

In the first 500 cases in the series here reported upon, successful result as judged by our dual standard was obtained in 52 per cent of cases. In 43 per cent of cases, results qualified as successes in both categories. In approximately 24 per cent of the 500 cases, results were eventually classed as failures for various reasons. In another 24 per cent, significant gains were obtained, varying from improvement of 7.5 decibels to as much as 40 decibels, although not qualifying as successes in either of the stated categories.

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*An average of the two best threshold responses at 500, 1,000 and 2,000 cycles.

In the most recent group of 100 cases in a study of 600 cases, results were successful in 62 per cent; in 29 per cent significant but less than successful gains were obtained; and in 9 per cent the operation was a failure.

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Social Security Footnotes

THE GOVERNMENT, while slow to acknowledge anything wrong with the Social Security system, underestimated the demand for benefits. Women who could obtain benefits at 62, 63, and 64 decided to do so even if the payments were less than they would be at 65. Farmers suddenly turned out to be older than expected. Some began to pay social security taxes on reported income of $4,200 which exceeded their income in prior years. Then they applied for benefits after paying taxes for six quarters. Many people who had retired and were well beyond 65 years of age, dug up jobs for themselves and paid social security taxes for 18 months, thereby qualifying for benefits of from $30 to $108.50 monthly for life. Social security experts in making their cost projections underestimated the ingeniousness of the American people when federal give-aways are as widely advertised as are social security benefits.

—From the Department of Public Relations, American Medical Association

The Treatment of Diabetes Mellitus

WILLIAM W. H. POTE, JR., *M.D.*, Los Angeles

• The treatment of diabetes mellitus continues to challenge all physicians regardless of special interest. Although there have been many advances, treatment still primarily centers around education of the patient, particularly in regard to proper balance of diet, insulin and exercise. The exact role of the new oral insulin substitutes is not yet fully established. With proper consideration of the fundamentals of treatment and team-approach, there can be life added to the years and years to the lives of our increasing diabetic population.

THE TREATMENT of diabetes mellitus presents a challenge to all physicians. Each physician must develop a philosophy regarding the treatment of diabetes if he is to carry out his responsibility to his patients.

The syndrome known as diabetes mellitus represents a very active and changing process, often acute. It crosses all areas of medicine. Many metabolic and endocrine processes are affected by diabetes. In no other condition is the arteriosclerotic process more evident, more accelerated than in diabetes. It matters ~~not~~ how specialized a physician may become, if diabetes develops in a patient under his care, he must consider special problems which may follow.

One of the most important contributions to the detection of diabetes has been the use of the routine urinalysis on every new patient, although glycosuria so detected is not diagnostic, nor is a negative result reliable in an older patient with an elevated renal threshold. Blood sugar determination is being used much more frequently today; and there is less insistence upon determination of fasting blood sugar, for it is recognized that blood sugar determined at any time, if interpreted in relation to the time of food intake and accompanied by glycosuria, may aid in the diagnosis of diabetes.

Even though today there is much more information available both for patients and physicians, too often diabetes is not properly dealt with. The patient has fear and is annoyed by the inconvenience of the necessarily imposed regularity of his life. Instead of developing and following a planned program, he too often resents, rejects, ignores or neglects the disease. Moreover, sometimes when the patient needs a friend to help him understand the treatment and the fact that he can live a normal life, his physician is not ready to explain diabetes to him in an understanding way. It takes time. There is much detail. There is much controversy. The patient is not given a clear-cut approach to diabetes. If the physician does not have the goal clearly in his mind, the patient is left confused and should not be expected to take care of himself. Obtaining acceptance of the treatment program is the physician's responsibility. If each physician is to meet the challenge, he must accept certain goals for the over-all problem of diabetes and certain specific goals for an individual patient.

The general goals in the treatment of diabetes are as follows: (1) To prevent death; (2) to prevent or delay sequelae; (3) to restore the metabolism to normal; (4) to help the patient to find a balanced program; (5) to detect early diabetes; (6) to prevent diabetes.

There should be specific goals in the treatment of individual patients. Diabetes should be controlled even if it cannot be cured. Physiological chemical values (blood sugar 100 mg. per 100 cc. fasting and 150 mg. per 100 cc. after meals) can be obtained in many patients without undue hardship to the patient and without incapacitating or significant insulin reactions. The patient can become aglycosuric or at most excrete in the urine not more than 5 to 10 per cent of his carbohydrate intake in 24 hours.

The patient must be assisted to function effectively at home, at work and in the community. It is desirable for him to maintain a stable weight, preferably normal or 5 to 10 per cent underweight. At present physiological control appears to be the best approach to prevention of sequelae.

To achieve these goals there are certain aids: Diet, insulin, exercise and education. More recently oral-hypoglycemic drugs have been under investigation to determine what contribution they can make to the care of patients with diabetes.

Diet

Diet therapy has changed greatly since the undernutrition era. As far as quality is concerned, a diabetic person can eat the same food as one who

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Presented before the Section on Internal Medicine at the 86th Annual Session of the California Medical Association, April 30, 1957.

TABLE 1.—*Diet—Exchange Values*

Exchange List	Carbohydrates (gm.)	Protein (gm.)	Fat (gm.)	Calories	Amount
List 1: Milk	12	8	10	170	1 cup whole
List 2A: Vegetables	negligible				Limit 1 cup cooked
List 2B: Vegetables	7	2	0	35	½ cup
List 3: Fruit	10	0	0	40	
List 4: Bread	15	2	0	70	½ cup
List 5: Meat	0	7	5	75	1 oz.
List 6: Fat	0	0	5	45	1 tsp.

does not have the disease. It is most important that the patient eat specific amounts at specific times and at stated intervals, particularly if he is taking insulin. Patients' food patterns differ. The diet should be fitted to the family habits of eating. More than half of diabetic patients could obtain physiological control if they but followed a diet carefully. Weight reduction is impossible unless there is an adequate caloric deficit. Being the most easily quantitated portion of treatment, the diet is still the most basic part of the treatment of diabetes. Weighing of food is not necessary in all cases, although doing so is good as a training procedure for patients. The trained eye and conscience make it easier to follow a specific diet. For patients who are prone to hypoglycemia and ketosis, when one gives multiple doses of insulin it is probably important to weigh the high-carbohydrate foods and the meat.

For the majority of patients the "exchange diets" are probably satisfactory if understood and followed. It is certainly easy for the patients to visualize the food and to understand substitution. It is easy for physicians to remember the common values in the exchange system. If one remembers the values given to each of the six types of food and the amounts usually used, it is easy to calculate the values of food that one is eating. One can easily change the diet to fit his needs and desires (see Table 1).

Insulin (Table 2)

Insulin should always be used if the patient is severely symptomatic, or has infectious disease or if immediate control is desirable. If the patient is asymptomatic and nonketonuric, and is heavy, insulin should be withheld, since insulin therapy is not conducive to weight reduction. Insulin therapy has become more complex in recent years; there are at least five kinds of insulins for use in various situations (Table 2). Regular insulin has now been removed from the market and has been replaced by crystalline-zinc insulin (CZI) with a peak action of three to five hours in most patients. Crystalline-zinc insulin should be used primarily for an emergency such as coma or infection and as a supplementary insulin. One patient, recently observed, who had taken insulin three times a day since 1935, found that it was much easier to adjust insulin therapy, food and exercise when he took divided doses of CZI rather than long-acting insulin. This patient has had diabetes 21 years yet had only some microaneurysms in the eyes. A twin brother, who never followed a careful program, died recently with intercapillary glomerulosclerosis.

Protamine-zinc insulin was the insulin in general use for many years, but it has a prolonged effect making it inadequate for daytime control, as the greatest effect is when it is least needed.

Globin, NPH and lente insulin are effective intermediate insulins. NPH and lente insulin appear to have slightly more prolonged effect than globin. With use of these insulins, meal distribution should be in thirds with a mid-afternoon feeding in addition. Crystalline-zinc insulin may be added readily to NPH to control the after-breakfast spill, which in many patients is not accomplished with a single dose of NPH. In still other patients it is necessary to give NPH at bedtime in small amounts to achieve night-time control. For immediate effect, crystalline-zinc insulin may also be added to lente. Most patients will be well controlled with a small amount of crystalline-zinc added each morning to whatever intermediate insulin they are using. The guide for the dosage of intermediate insulin, of course, would be the before-breakfast urine sugar, and for the crystalline-zinc would be the before-lunch urine sugar. Only a fresh specimen of urine, voided after the bladder is emptied of urine that has accumulated over a long period, should be used for determination of sugar content as a guide to change in insulin dosage. The urine sugar is a good guide to diabetic control if it is regularly tested and the patient's renal threshold is known. It is now possible to obtain ultra or long-acting lente and semi or short-acting lente. With these it may be possible to use only lente insulins.

In taking insulin of any kind, one should keep certain points in mind: Probably insulin atrophy would be seen less frequently if the patient varied the site of injection, which can be done easily if a record of injections is kept on a map. Many patients

TABLE 2.—*Properties and Uses of Various Kinds of Insulin*

Type of Insulin	Action			Indications	Precautions
	Onset	Peak	Duration		
Rapidly acting:					
Crystalline-zinc..	½ to 1 hr.	3 to 5 hr.	6 to 8 (12)* hr.	Emergencies as coma, infection, operations; supplementary	Eat soon after injection; equal meals equally spaced.
Intermediate acting:					
Globin	1 to 2 hr.	6 to 11 hr.	15 (24) hr.	Daytime glycosuria	Take mid-afternoon food.
NPH	2 hr.	7 to 10 (10 to 20) hr.	28 to 30 hr.	Daytime glycosuria; basic insulin	Meal distribution: One-thirds, with mid-afternoon feeding. Increase dose slowly.
Lente	2 hr.	7 to 10 (10 to 20) hr.	28 to 30 hr.	Daytime glycosuria; basic insulin	Not over 5 units every third day. CZI may be added.
Prolonged-acting and protamine-zinc					

*Parentheses indicates duration cited by some investigators.

complain of allergic reaction to insulin, particularly when they first take the drug. However, the red elevation at the injection site may be due to too superficial injection or to irritation from alcohol. It is important to inject insulin deep enough. If the patient at first has allergic sensitivity to insulin, he will probably become desensitized if insulin is continued. It is the patient who has taken insulin, discontinues it, and then begins again months or years later who develops severe sensitivity. If the patient is known to be allergic to insulin, there is an obligation to desensitize him because he may sooner or later have a complication or an infection leading to acidosis, which would necessitate use of the hormone. Many patients with hypoglycemia have strong rebound hyperglycemia, and too often in such circumstances additional insulin is given rather than having the amount reduced. Often the rebound glycosuria or the sugar content of residual urine masks the negative urine tests which should accompany the low blood sugar. If the program is well planned, very few patients will have frequent or severe insulin reactions. When they occur they should be treated promptly and with enough food.

Exercise

A diabetic patient should take the amount of exercise usual for persons of his age. It is best if his heaviest exercise can be taken at a planned time each day. If unusual, unplanned exercise is taken, about ten grams of carbohydrate per half-hour or hour of exercise should be ingested, the amount depending on how vigorous the exercise is. It is well recognized that exercise diminishes the requirement of insulin or increases its effectiveness. The usefulness of exercise in diabetic patients has not been fully explored. It should be borne in mind that whenever the program of the patient is altered, diet, insulin and exercise must all be adjusted.

Education

An understanding patient is the most cooperative patient. If the physician does not have the time nor interest to instruct the patient properly or does not have a trained aide who can do so, he should send the patient to someone who can give him rudimentary instruction in diabetes. Each patient should have instructions regarding diet, insulin, foot care, insulin reactions and the treatment of reactions, and the general problems of diabetic persons. With some personal instruction, the many good manuals available can help the patient considerably.

Other aids in the care of a diabetic patient include blood sugar tests, urinalysis and acetone tests. All patients should be carefully trained in techniques of testing urine for sugar and acetone. Testing with Benedict's solution is the cheapest method and still very good. Clinitest® is most frequently used. The newer Clinistixs,® Testape® and Testixs® have special usefulness when the patient is traveling or is at work or at school. One must be sure that the patient understands the colors involved in use of Testape and that he reads the results after a one-minute interval. It is important that a patient get used to one method of testing and use it regularly. All patients should test at least once daily, particularly after the heavy meal. A patient with unstable diabetes or one who is taking insulin should make a urine test two to four times daily. The quantitative determination of the sugar content of the urine is an excellent guide to significant glycosuria. An older patient often has a relatively high renal threshold and does not realize that "negative" urine may have no significance whereas a "positive" test result would mean decided hyperglycemia. The renal threshold may change after control is obtained.

Drugs for Oral Use

As to the new oral hypoglycemic drugs, there is no conclusive answer as yet. Tolbutamide has no serious toxicity (in contrast to carbutamide, which was removed from clinical investigation). Regarding the sulfa drugs, it is generally agreed that they lower the blood sugar. It appears that the pancreas is necessary for their action. The consensus is that when sulfa drugs are used the effectiveness of insulin is increased, probably through stimulation of the beta cells of the pancreas. There has even been some suggestion that these drugs may enhance the action of endogenous insulin. Some investigators have noted evidence of decreased hepatic glucose output with the use of sulfa drugs, although this does not appear to be a major effect when used in ordinary dosage. There are many conflicting results in the experimental work to date, probably due primarily to varied conditions of the research, species difference and interpretation. If it be true that these drugs work through the insulin mechanism, it may take at least one to three years to know whether it is useful to stimulate the pancreas of diabetic persons. The possibility of exhaustion of the beta cell mechanism should be considered.

Clinical experience has shown that the drugs for oral use are much more effective in patients who were mature at the time diabetes began—that is, a patient over the age of 45, usually obese, taking less than 40 units of insulin daily and having had diabetes for five years or less. Selection of patients by specific tests has been attempted. One way is by using a loading test* of three grams of tolbutamide and observing the decrease in blood sugar after four hours, a good response being a decrease of 20 per cent or more. If the patient has been using a small amount of insulin, it should be omitted the day of the test. If he requires large amounts of insulin, regular insulin may be substituted for a day or two before the test. Not all patients who respond to the loading test get a good result with treatment, nor do all nonreactors fail to respond to treatment. Another suggested test is the response of the patient in regard to ketonuria after the cessation of insulin. If ketonuria occurs, tolbutamide is not likely to work.

In evaluating the clinical results in the use of the oral hypoglycemic agents, one must carefully evaluate the basic control prior to the use of the drug. It is possible that some patients in whom diabetes is fairly well controlled by diet alone may receive sufficient additional help to maintain better control. Certainly many patients who have favorable results with the drug would do well on diet alone if the diet were carefully followed.

In evaluating drugs such as these, short term and long term toxicity must be studied. It appears that tolbutamide is far less toxic than carbutamide and has no significant side effects. The average dose for maintenance has been 1 to 2 grams daily. A newer nonsulfonamide hypoglycemic agent is now under study.

In considering the treatment of diabetes, one should remember that diabetic patients generally can be separated into two groups—those who were mature at the time of onset and those in whom the disease began in the growing years. The former are stable and often respond to diet alone. It is the juvenile type of diabetes that is more often unstable or labile and requires the use of insulin, and often is very difficult to keep in balance. It is the relatively small group of patients with unstable, insulin-sensitive and ketosis-prone diabetes who present the greatest problem in the treatment of diabetes. With properly used insulin mixtures and multiple doses per day as well as a carefully quantitated and regulated diet, the disease can be stabilized in most of these patients. It may be necessary to give as much as six feedings a day and a diet higher in protein and fat for better stabilization. Certainly the difficulties in control should not cause a physician to allow a patient to completely abandon desirable goals in treatment.

Diabetes is no longer a tragedy, but mostly an inconvenience. Patients must be convinced of this and be given the support that they need in working out livable programs. Just as the patient rejects, resents, neglects and ignores diabetes, too often the physician may resent, reject, ignore or neglect a patient with diabetes. Often the patients are elderly and unemployable, of a low income group, often on pension, socially neglected and difficult to rehabilitate. They need the help of responsible physicians. The ideal control of diabetes in a patient can best be accomplished by a team consisting of a cooperative patient, an interested physician, a well-trained dietitian, a nurse, a social service worker, a laboratory technician, a pathologist and a chiropodist. Each has a vital part to play in accomplishing the total program of care of the diabetic. This total program includes not only adequate treatment but more active research in the causes of the problems encountered in diabetes.

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**Loading Test.* Subject should be free from keto-acidosis. All insulin is discontinued for three days except for patients with large insulin requirements or frequent ketonuria in whom CZI is used intermittently as needed for control of any heavy glycosuria. On the test day a fasting blood sugar is drawn and 3 grams of tolbutamide given orally. The subject remains fasting for four hours at which time the blood sugar level is determined again. A hypoglycemic response of 20 per cent or more is favorable.

Recent Developments in Surgical Skin Planing

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and RALPH LUIKART, II, *M.D.*, Santa Barbara**

• In surgical skin planing steel wire brushes have been largely replaced by the less hazardous diamond chip burs or "fraises" and serrated steel wheels.

In addition to acne pits and wrinkling, multiple actinic (senile) keratoses are an important indication for planing. Planing provides a nonscarring method for the treatment of existing keratoses, as well as a prophylaxis against skin cancer by replacing the sun-damaged, precancerous epidermis with new epidermal cells derived from the cutaneous adnexa (pilosebaceous and sweat gland units).

There are clinical landmarks indicating the depth of planing which can serve as a guide to the operator and can be correlated with microscopic findings.

The results of experiments on the comparative effects of refrigerants on animal and human skin indicate that human facial skin can tolerate considerable freezing with ethyl chloride or dichlorotetrafluoroethane (Freon 114) but that mixtures containing large proportions of the much colder dichlorodifluoromethane (Freon 12) may be undesirable. Refreezing an area of the skin in order to perform a more adequate planing is not considered hazardous.

The regeneration of the skin following planing has three components: Epidermal, adnexal and dermal. The cells of the epidermis and the adnexa are equipotential. A knowledge of the anatomy of the acne pit enables the operator to decide which pits can be benefited by planing and which should be excised before planing. The successful treatment of acne pits of the face by planing in patients having keloids elsewhere on the body is reported.

FURTHER EXPERIENCE in the technique of surgical planing has led to the virtual abandonment of the steel-bristled brush because of its great coefficient of friction when compared with its cutting power and dangerous tendency to seize tissue suddenly and "gouge" deeply and uncontrollably without warning, especially at the periphery of a given area where the tissue is not frozen. The lips and eyes are zones of particular concern to the operator when using the wire brush. Gauze or hairs also become entangled frequently, resulting similarly in loss of control and occasionally breaking the flexible cable-shaft of the machine.

Two types of abrading disc have proved to be preferable. The safest is composed of a metallic disc, the periphery of which is covered with securely embedded, sharp-pointed diamond or ruby chips.[4] These are termed *fraises* and they are available in several sizes and shapes and in varying degrees of coarseness of the chips. They are intended for cutting materials of great hardness and can withstand considerable such usage before becoming dulled. Such rugged construction is not necessary for surgical planing, but the inconvenience and cost of replacement are much less than with steel-bristled brushes, which usually become unusable after a few operations. A small pear-shaped diamond fraise is useful around the nasolabial folds and glabella. The jeweled fraises are capable of cutting to any reasonable depth, but only in an adequately frozen area. The fine chip diamond fraises available at first were not entirely adequate for deep planing, but the recently available coarser grade is more efficient, yet retains the safety feature of almost complete freedom from gouging or catching.

A stainless steel disc with a serrated cutting edge[4] has also been found useful for deeper cutting. These

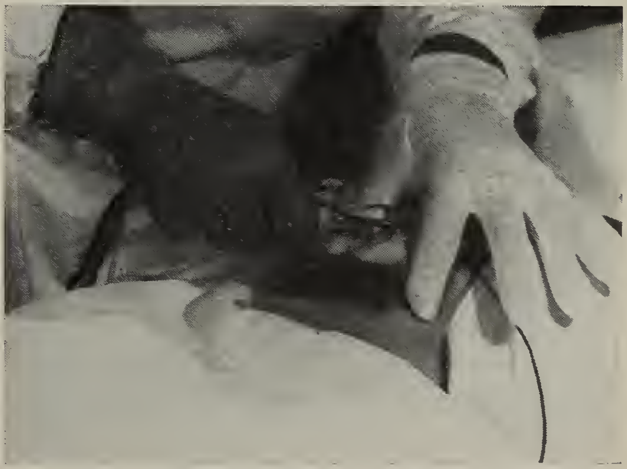

Figure 1.—Jet-spray handpiece. The operator presses with thumb to release refrigerant spray carried from tank by plastic tubing. Area to be planed has been demarcated with gentian violet. Cotton glove is for traction. Spatter guard protects operator from abraded skin particles.

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Presented before the section on Dermatology and Syphilology at the 86th Annual Session of the California Medical Association, Los Angeles, April 28 to May 1, 1957.

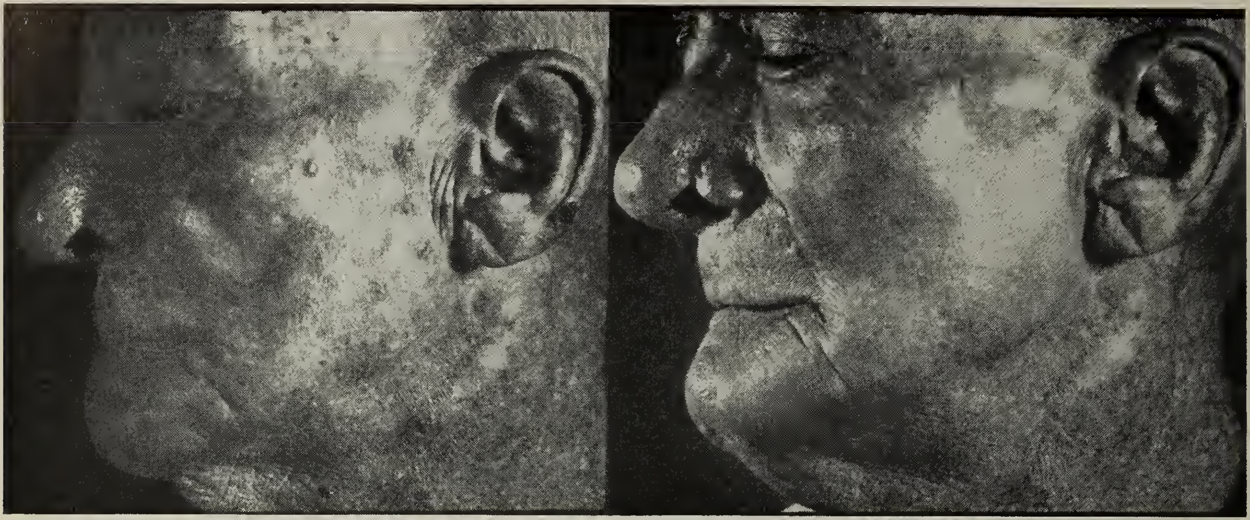

Figure 2.—*Left:* Multiple senile keratoses (farmers' or sailors' skin) before planing. *Right,* six weeks after one planing.

are available in several diameters, widths and shapes. They are not quite as free of the tendency to seize tissue and gauze as the jeweled fraises and should therefore be used with more nearly the same caution as that necessary with a bristled brush.

The jet spray handpiece previously described[10] has been further improved and is obtainable (Figure 1.). Drawing its refrigerant liquid continuously from a tank containing more than needed even for a prolonged operation, it eliminates the time necessary for the operator to change from a hand-held can to the abrading tool and thus increases the convenience and efficiency of the freezing-planing procedure.

Devices to protect the operator from the spray of abraded skin particles and blood are now in general use. The jet spray handpiece has a spatter guard, and similar devices are available to clip to the conventional handpiece. Beirne and Beirne devised a guard which also serves to collect the particles of skin.[1] We have attempted to use the material collected on the spatter shield (obtained by planing nonfrozen skin) as grafts for clean granulating leg ulcers, but the results have been disappointing.

Although pitted acne scarring continues to be the major indication for planing, the value of the method in the treatment of single or multiple senile keratoses is also very great. It is a rapid method of removing the lesions adequately without producing the scarring that may result from some of the other destructive methods commonly used. It has a prophylactic effect as well, in that it replaces the epidermal cells that have been exposed to years of actinic damage with new cells derived from the adnexal structures. Thus, patients who have a hereditary predisposition toward multiple precancerous senile keratoses and skin cancer have been given, by prophylactic planing, a fresh start with a new epidermis. In time, new keratoses may develop, but a substantial delaying action has been achieved. Furthermore, they have been spared the "patchwork quilt" effect that frequently results from the destruction of crops of keratoses by conventional methods over a period of years. The improved, more youthful appearance of the new skin is an extra dividend gratefully accepted (Figure 2.). In this condition, the planing should be relatively superficial, since the objective is removal of the sun-damaged epidermis. Epstein[5] recently stressed the value of planing in the treatment of actinic and radiation keratoses,[5] although his recommendation that it be used in chronic radiodermatitis should perhaps be qualified somewhat. We would not hesitate to plane individual radiation keratoses, but we would urge great caution in planing extensive areas of chronic radiodermatitis unless there is evidence that the cutaneous adnexa are still present. We consider planing of extensive areas that are devoid of adnexa to be contraindicated, since the normal sources for epithelial regeneration are absent.

Fine and moderate wrinkling responds well to planing (Figure 3). The more recent use of the diamond fraise with its greater safety enables one to plane quite close to the eyes without undue danger, although it is an exacting procedure.

Another situation in which planing is a useful adjunct is in bevelling the sharp edges which may result from the destruction, for example, of a basal cell carcinoma by electrodesiccation and curettage. Furthermore, one need not wait until a depressed scar has formed in order to improve it by planing but, as suggested by Zimmerman,[14] freeze and plane the sharp borders immediately following the destruction of the lesion. Depressed linear traumatic scars respond well to planing (Figure 4).

Hypertrophic scars tend to recur following plan-

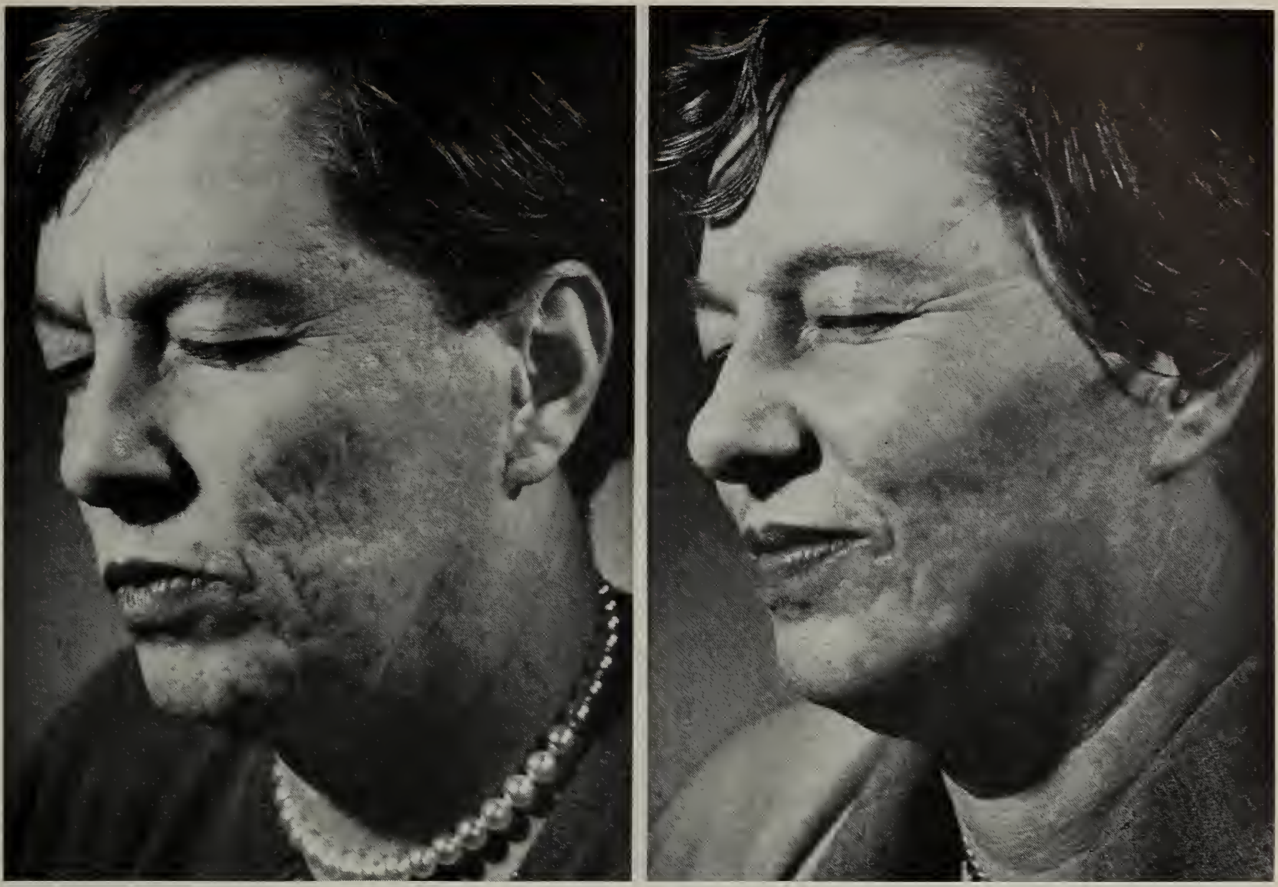

Figure 3.—*Left:* Moderate wrinkling (and acne pits) before planing. *Right:* Two months after one planing.

ing. Therefore, if feasible, they should be excised and sutured. If they are treated by planing, the use of x-ray may help prevent a hypertrophic recurrence.

By observation one can delineate five depths of planing which appear successively during the procedure. (Burks[2] wrote on depth of planing, but our observations are somewhat different from his.)

1. First the pigment vanishes, indicating that one has removed the major portion of the basal cell layer.

2. The second level is determined by observing myriads of yellowish macules, each less than one-half millimeter in diameter. This indicates that planing has progressed down into the upper dermis, making the pilosebaceous apparatus visible. Because of the shredding of dermal tissue and linear striations, this level is usually not identifiable when a wire brush is used, but it is readily seen on the much smoother abraded surface that is produced when the diamond fraise is used on a thoroughly frozen field.

3. As planing goes deeper, the surface appears studded with yellowish lobulated papules. These are the sebaceous glands which have been cut across and is the depth usually achieved in a moderately deep planing.

4. If the planing is carried deeper, decided resistance of the tissues will be encountered. This is primarily because the tissue at that depth is below the penetration of freezing (about 2 mm.), as was pointed out by Strauss and Kligman.[11] Of course, if refreezing is done at this level, further depth can be achieved with relative ease, and caution is in order.

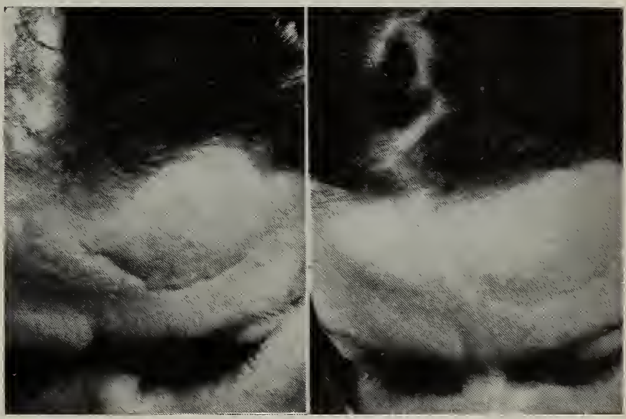

Figure 4.—Depressed linear traumatic scar. *Left,* before planing. *Right:* Six months after one planing.

5. Finally, if planing is carried to a still greater depth, yellow "nubbins" that are lobules of subcutaneous fat are exposed. This is well below the level of the sebaceous glands and at the depth of the deepest hair papillae. Planing to this level is very

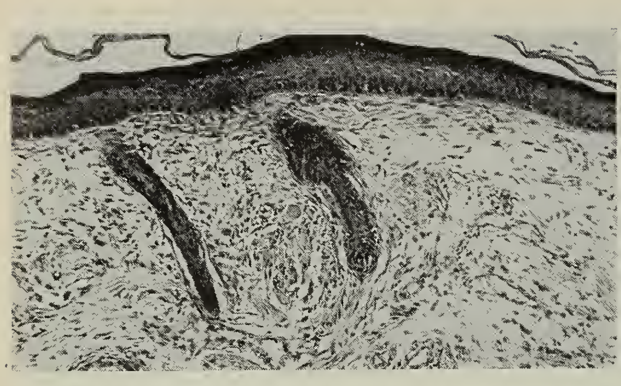

Figure 5.—Biopsy of facial skin two weeks after planing. Vellus (lanugo) hair follicles with primitive sebaceous gland buds are developing from the new epidermis. Rete ridges are still absent. Subepidermal portion of dermis appears composed of new collagen with young fibroblasts.

likely to result in removing so much adnexa as to cause scar formation.

Strauss and Kligman observed that the skin of the human cheek could be frozen for as long as 8 minutes with ethyl chloride or dichlorotetrafluoroethane (Freon 114, Frigiderm[12]) without producing severe damage, and that such reaction as did occur was no worse after 8 minutes than after one minute of application of the refrigerant.[11] They postulated that the great vascularity of the superficial portion of the skin prevents deep freezing and that the frozen surface itself acts as an insulator, preventing deeper penetration of the cold. In support of this, they noted that even heavily frozen skin was not frozen deeper than about 2 mm., as evidenced by the presence of freely bleeding, nonfrozen skin below this depth when planed quickly and forcefully.

In experiments we carried out with freezing the skin of the backs of dogs, significant damage was observed beginning after about one minute of application of either ethyl chloride or Freon 114 (without planing), and somewhat greater damage after one and a half and two minutes.[9] Differences between human facial skin and that of the dog's back probably account for these quantitative differences. Dichlorodifluoromethane (Freon 12) produced damage after 15 seconds comparable to that produced by ethyl chloride or Freon 114 after one and a half or two minutes. The difference is apparently directly related to the much colder skin temperature produced by Freon 12: (Ethyl chloride, —30° C.; Freon 114, —36° C.; Freon 12, —60° C.).

Experiments with mixtures of varying proportions of Freon 114 and the much colder Freon 12 have shown evidence of improved freezing capacity as compared with Freon 114 alone. However, we believe the proportion of Freon 12 must be kept relatively small (about 30 per cent) to avoid overfreezing, and the danger of refrigeration necrosis.[13] For example, a mixture of 43 parts Freon 114 and 57 parts Freon 12 was compared with pure Freon 114 by spraying on the back of the hand for 20 seconds. The colder mixture (skin temperature —55° C.) produced a considerably greater reaction than Freon 114 alone (skin temperature —36° C.).

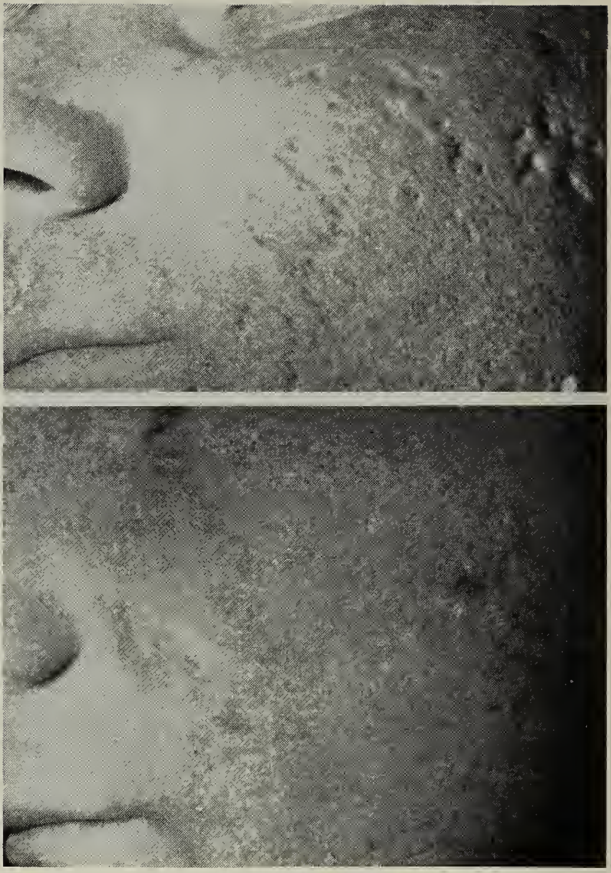

Figure 6.—Deep acne pits. *Upper:* Before combined excision and planing. *Lower:* After excision of several of the deepest pits, followed by planing of the balance.

We are in complete agreement with Strauss' and Kligman's observation that refreezing an area is not harmful.[11] It is our belief, supported by clinical observation, that refreezing an area when necessary in order to plane it more adequately at a given session is not hazardous and is preferable to the alternative of increasing the number of planing sessions. It is often preferable to continue planing another area while waiting until bleeding has stopped in the area considered to have been inadequately planed. After a few minutes it is much easier to refreeze this area without interference from the oozing of blood.

The regeneration of the epidermis from the remaining portions of the cutaneous adnexa within a week following planing is now a familiar concept.[3,9]

The milia which commonly occur three to six weeks after planing are actually "tiny cysts lined by stratified epithelium . . . and containing concentric lamellae of keratin."[6] They arise from epidermal and adnexal cells which have been isolated in the dermis at the time of planing. These cells first dedifferentiate, and if they fail to rejoin the adnexa or surface epidermis, they then differentiate into milia. Moreover, the epidermal and adnexal cells are all equipotential, as evidenced by the rapid regeneration of new epidermis from every epithelial structure that remains after planing. All these specialized cells produce tongues of identical undifferentiated proliferating cells, which form a new epidermis; and from this, in turn, new vellus (lanugo) hair follicles and sebaceous glands regenerate.[6] The sebaceous glands are first evident as primitive structures between two and four weeks after planing and are mature and functioning by two months[6] (Figure 5).

We have been interested not only in epidermal and adnexal but also in dermal regeneration. Two weeks after planing there is a sharply defined subepidermal zone which is paler staining than the rest of the dermis below it. It has a loose, reticular appearance and contains many young fibroblasts, thus clearly suggesting that new collagen has been laid down during and after re-epithelization (Figure 5).

It is our experience that following a planing of moderate or greater depth there is not a restoration of dermal tissue equal in thickness to that removed; hence, the skin is actually a little thinner than before planing. However, the fact that there is at least partial restoration of the dermis seems to explain the clinical observation that even though there may be only a slight dell remaining as the bottom of a pit immediately after planing, there may be a pit of considerable depth reappearing after regeneration has occurred in a week or two. Since, in this situation, the floor of the pit with its epidermal lining has not been removed, dermal regeneration takes place on all sides of it, and the result of this particular planing session is only a partial decrease in depth of the pit. On the other hand, if the floor of this pit with its epidermal covering is completely removed by planing, then the resulting dermal regeneration will be uniform over the area, and there will be little or no evidence of the pit. The routine use of gentian violet[7] is of great value in visualizing the depth of pits, but some pits are too deep for complete removal by planing.

It is our practice to remove, either by elliptical excision and suturing or by a punch, those pits which appear obviously too deep for safe removal by planing. This is done three or more weeks before planing, and any suture marks resulting can then be planed along with the pits (Figure 6).

Our measurements of the thickness of biopsies of facial skin showed variations between 2 mm. and 4.5 mm., the skin being thickest on the cheeks and thinnest on the anterolateral aspects of the neck and adjacent to the eyes. When Strauss and Kligman performed what they considered to be very deep planing, the deepest removal of tissue was 2.0 to 2.5 mm., which is about half the total thickness of thick skin.[11] Their measurements and ours showed the average acne pit to be 1 mm. or less in depth, those considered as quite deep were about 2 mm., and only the very deep "ice pick" pits were deeper than 2 mm.

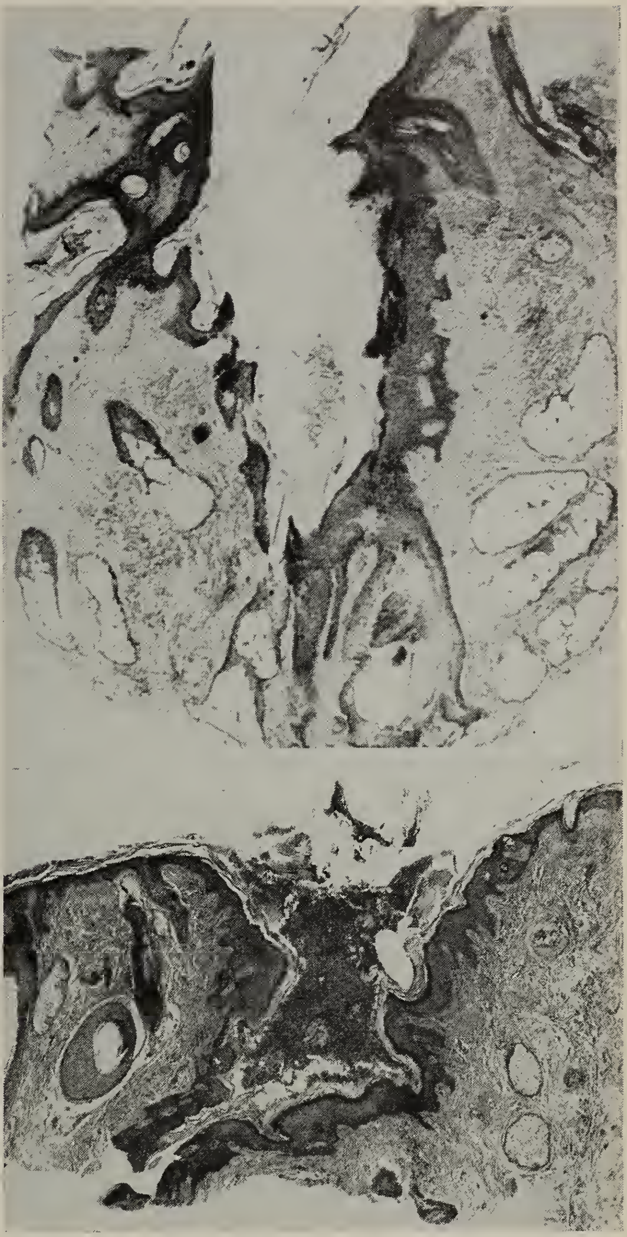

Figure 7.—Biopsies of "ice-pick" acne pits excised from bearded area of cheek of patient shown in Figure 6. *Upper:* Deep, narrow pit (2.7 mm.). *Lower:* Pit 1.8 mm. deep, with lateral extension and epidermal proliferation.

Microscopic examination of "ice pick" pits showed the extreme depth to which these scars can extend and the undermining or tunneling that can occur (Figure 7), although this may not be evident clinically.

Whether acne pits of average size and depth are removed completely or only partially at a given planing depends on the depth of the pit and the depth of the planing. Without excessively deep planing it may be impossible to entirely remove very deep pits with steep, narrow sides. This is a relative matter, depending not only on the depth of the pit but on its depth in relation to the total thickness of the dermis and its contained adnexa. For example, it may be possible to eliminate an "ice pick" scar on the thick skin of the medial or midcheek with safety, whereas the same depth of planing over the angle or ramus of the mandible or side of the neck could cause scarring due to complete destruction of the adnexa. Great care should be exercised to avoid excessively deep planing in the thin-skinned areas. This can best be done by not freezing to a board-like hardness in these areas and by planing lightly.

It has been our contention that planing of the face is not absolutely contraindicated in the case of a person of keloidal diathesis. This is borne out to a limited extent by the experience of one of us (Ayres), who has performed five full-face planings on three patients with pitted acne scars who had typical keloids elsewhere on the body (presternal area and arms). In each case a small test area was first planed on the face; then, no untoward reaction having occurred in six weeks, the full face was planed. One of the patients had very deep pits necessitating two deep planings. All three patients had an entirely satisfactory course over a period of many months of observation after planing.

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No. 1 Killer

The influence of fear as a deterrent to reckless driving seems to have been overrated, to judge by the comeback of cigarette sales after the lung cancer scare. But in Connecticut, where drivers lose their operator's license for 30 days for the first speeding conviction, fatalities were reduced 14 per cent. Governor Ribicoff said, "If people won't slow down to save their *lives,* they will to save their *licenses.*"

Alcoholism

The Chronological Background Leading to California's Present Program

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• An ancient problem is receiving modern attention in California. In this paper, the author briefly reviews the historical background that has made possible newer attitudes and study approaches to the problem of alcoholism.

The chain of circumstances (and its welders) leading to California's broadly programmed attack upon alcoholism and its related complications is described.

THE HISTORICAL PROMINENCE of alcoholism has been recorded in the literature of every known civilization from antiquity. Philosophers, scientists, religious leaders and writers have observed and discussed man's relation to alcohol—that inevitable by-product of man's mastery of agriculture[19]—in terms variously laudatory and derogatory.

Biblical quotations (71 in all) relating to the use of alcoholic beverages are favored sources for argumentation by both "wets" and "drys," as are quotations from Shakespeare.

The Babylonian Code of Hammurabi, the oldest known system of codified law (c. 2225 B.C.), devotes several sections to regulation of the sale of alcoholic beverages in an attempt to control intemperate use of such beverages.[32]

The Chinese, whose traditional lack of alcoholic problems has provoked much study[3,20,21] even into modern times,[4] established and repealed laws against the manufacture, sale and drinking of wine no less than 41 times in the 2,500 years beginning about 1100 B.C.[29]

Many accurate and currently applicable descriptions of both the acute and chronic stages of alcoholism can be found in the writings of the Graeco-Roman era. Pliny the Elder (23-79 A.D.) wrote of the acute stage, and Seneca (5 B.C.-65 A.D.) in describing chronic alcoholism wrote: "The results are pallor, quivering of the muscles soaked in wine, and an emaciation due to indigestion and not to hunger. Hence the uncertain and tottering gait, and constant stumbling as if they were actually drunk; hence the swelling of the skin and distension of the belly, which has taken more than it can hold; hence the jaundiced and discoloured complexion . . . and the nerves dulled and without feeling or, on the other hand, constantly twitching. Why need I speak of the giddiness or the disturbance of vision and hearing, and the insidious pains in the head?"[33] The Dark and Medieval Ages, with their many conflicting beliefs and practices, donated to the future a rich, if confusing, mythology about alcohol, strong remnants of which persist even today.

National and international temperance movements and organizations for almost two centuries have been recognized forces in concerted attempts to deal with alcoholism. Similarly, insightful scientists, clinicians, lay bodies and individuals have constantly applied thought and effort to the solution of the problem.

A British physician, Doctor Thomas Trotter, in a thesis submitted to the University of Edinburgh in 1778, described drunkenness as a "disease produced by a remote cause"; and as early as 1830 in this country the Connecticut Medical Society emphasized the need for special hospitals for the treatment of this "disease."[1]

In 1885 the first meeting of the International Congress on Alcoholism was held in Antwerp.[25]

The League of Nations in 1926 suggested that alcoholism study be part of the League program, and encouraged enforcement of Article 22 of the League Covenant, which dealt with control of importation of alcohol into mandated colonies.[10]

Again in 1928, at the 13th Session of the League of Nations Health Committee, an active program on alcoholism was considered, but an evident lack of scientific and medical knowledge worked against the establishment of such a program.[47]

The United Nations, successor to the League of Nations, established its international health arm, the World Health Organization (WHO) as a functioning body in 1948. When the Expert Committee on Mental Health undertook the question of alcoholism in 1949, it recommended that the problems be studied by a special subcommittee.[55]

This Expert Committee on Alcohol and Alcoholism convened in first session in December, 1950,

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Submitted September 3, 1957.

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and submitted as its basic recommendation: ". . . that WHO should take all steps within its power to stimulate public-health services, to undertake work on this problem and should be prepared to provide advisory, educational and other services on this subject to such national health authorities as request them."[56]

The alcoholism subcommittee classified the drug *alcohol* as "intermediate between addiction-producing and habit-forming drugs,"[59] and defined alcoholics as: ". . . those excessive drinkers whose dependence upon alcohol has attained such a degree that it shows a noticeable mental disturbance or an interference with their bodily and mental health, their interpersonal relations, and their smooth social and economic functioning; or who show the prodromal signs of such developments. They therefore require treatment."[58]

This committee also proposed the following simple broad classification of drinkers:

1. Irregular symptomatic excessive.
2. Habitual symptomatic excessive.
3. Addictive.[58]

Alcoholics are persons of the latter two groups. Physical complications can occur in any of the three classes, but mental complications of any type only in classes 2 and 3.

Today, among the nations of the world there are at least eight which have passed national legislation for the control of alcoholism and the treatment and rehabilitation of alcoholics. They are Sweden, Denmark, Finland, Norway, Switzerland, The Netherlands, Belgium and more recently France.[53] Of these, Sweden* has been the leader and has, since 1913, had special laws providing for the treatment of alcoholics.[23]

Repeatedly in such legislation the social nature of this illness has been emphasized.[54]

In general, the social and medical illnesses deriving from the intemperate use of alcohol have been the object of observation, study and countless efforts at control in both ancient and recent times. The accumulation of knowledge from private and public efforts has led to the present international attack on the problem—an attack that has its operations grounded in the sciences, basic and applied, physical and social.

It is obvious that alcoholism has long been viewed as both a clinical and a social issue. Karl M. Bowman, one of the pioneers in the scientific investigation of alcoholism in America, wrote in 1942: "Every medical issue is, or ought to be, a social issue, too; and some social issues, regarded strictly as such, ought to become medical issues. The latter type of social issue usually becomes suitable for effective social handling only after medicine has adopted it, but only long after. This is due to the fact that when medicine first accepts a social issue as a medical one, the social effects tend to cling to it and temporarily to becloud the purely medical integration of the problem. Medicine can eliminate these encumbrances only gradually. When this has been accomplished, however, the quondam social issue emerges as a rigid medical problem. This stage, too, is not the most productive, for at this time society does not recognize the issue as its own but tends to accept the narrow view that it belongs in the restricted sphere of the medical scientist. Finally, the medical development of the problem reaches a stage when medicine can afford to drop the role of exclusiveness with respect to it. Medical science itself now reintegrates the desirable social aspects into the problem, and it becomes manifest in its correct proportions as a medico-social issue. Society is then ready to tackle it with the greatest promise of success. This process is operative with respect to the alcohol problem."[13]

ALCOHOLISM IN THE UNITED STATES

From the beginning, American interest in alcoholics and in the entire problem of alcoholism has been sustained not only by voluntary efforts of individuals and organized groups, but also by the early colonial instructions in the founding charters. For example, the royal instructions to colonial Virginia of November, 1606, mandate punishment of ". . . all manner of excess through drunkenesse or otherwise, and all idle loytering and vagrant persons" as the designated governing body of the colony should see fit.[2] The varying attitudes of the more puritanical northeastern colonies are too well known to require documentation, although in recent years researchers have called attention to the fact that heavy use of alcohol was a widely accepted practice of pioneer times.

Parallel with Europe, this country entered the Eighteenth Century debate begun by Thomas Trotter as to whether habitual drunkenness was a disease or a form of moral insanity. Temperance and antitemperance forces aligned themselves, the former reaching their greatest numerical strength in the middle of the Nineteenth Century. The Washingtonian Movement of the 1840's best exemplifies the rapid growth of the temperance movement during that period.[26]

The early suggestion (1830) of the Connecticut

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*Sweden, in its original law of 1913, defined alcoholics in terms of behavioral defects, e.g., people who in their use of alcoholic beverages were unable to care for themselves, or those who disrupted the life of a neighbor.

Medical Society that the state set up special hospitals for alcoholics was mentioned earlier; however, it was not until 1854 that an extraordinary man, Joseph Turner, succeeded in securing the passage of "An Act to Incorporate the United States Inebriate Asylum for the Reformation of the Destitute Inebriate" by the State Legislature of New York.[34] Understandably, this precocious project was ill-fated; yet, it served to arouse public interest to the extent that within 20 years after Turner's death (1889), more than 50 hospitals for inebriates were founded in America and Europe.[35]

The temperance feeling found political expression in the National Prohibition Act of 1920, the Eighteenth Amendment to the Constitution, which, after a thirteen-year trial, was repealed in 1933 by the Twenty-first Amendment.

One of the major enlightenments to come out of this experiment was that scientific inquiry into the role of alcohol in society was the *sine qua non* for understanding, handling and preventing further extension of the problem. To this end a group of educators and scientists in 1937 formed the Research Council on Problems of Alcohol.[28]

The Research Council was incorporated in 1938 and within six months became officially associated with the American Association for the Advancement of Science. The purpose of the Council was defined as follows: "The alcohol problem has become one of the major perplexities of our civilization. On top of all the intrinsic difficulties of the situation, there have been superimposed emotional and political elements that have produced still further complications. It has become evident that nothing can be accomplished by the application of main force. If we are to find a way out, it can only be through the development of a complete factual basis on which can be built an intelligent, effective plan of action. The main and primary purpose of the Research Council on the Problems of Alcohol is to ascertain the facts; the secondary objective is to make these facts available to the public in such a way that they will do the most good."[28]

The scientific committee of the Council, under the chairmanship of Karl M. Bowman* and executive directorship of E. M. Jellinek,† immediately initiated a complete classificatory survey of world literature dealing with alcohol and inebriety. The substance of the study was published in several volumes by the Council.[13]

This work of collecting, abstracting and classifying the literature dealing with alcohol and alcoholism was taken over in 1940 by the Yale University Laboratory of Applied Physiology in New Haven, Connecticut, where the staff of the newly founded *Quarterly Journal of Studies on Alcohol* could preserve and expand it.[15]

This work resulted in the Classified Abstract Archive of the Alcohol Literature, a codified collection of some 6,000 abstracts, which, through the cooperation of WHO, has been duplicated and established in depositories in many countries§ of the world.[15]

The Yale University Laboratory of Applied Physiology, which materially aided the Council in its initial efforts, has a long and outstanding record of a multidisciplinary approach to the problem of alcoholism that began in 1930 under the direction of Howard W. Haggard. It has stimulated research on metabolic, physiological, medical, sociological and psychological aspects of alcoholism, establishing itself as a national authority on investigations relating to this problem area.

Upon the death, in 1949, of the Research Council on Problems of Alcohol—"Too much overhead, with too little money for research," said Anton J. Carlson, the council's president—the National Research Council took over the various uncompleted projects still under way.[1]

The pioneering work and continuing influence of the Yale group‡ have been, for the past 20 years, a directing force in every phase of alcoholism research, treatment and rehabilitation both nationally and internationally.

No discussion of alcoholism in the United States is complete without mention of the unique, voluntary alcoholic-treatment group, Alcoholics Anonymous, which originated in 1935.[36] This organization with 150,000 members in this country,[24] now has a counterpart in every country that is attacking the problem of alcoholism. Alcoholics Anonymous is recognized by the medical profession as a worthy adjunct to medical treatment for those alcoholics who can accept AA's traditions and credos.[6]

The acceptance of alcoholism as an illness by society and by organized medicine has been a slow process. Today, despite the tremendous work of the past two decades, many persons of this and other countries consider alcoholism a social blight to be handled by the correctional authorities, or, at best, to be hidden from public view by mental hospitals. In 1954, Doctor Anthony Zappala, Director of the Alcoholic Rehabilitation Division, District of Columbia Department of Public Health, wrote: "The medical definition, which is gradually finding its way into the law, describes the alcoholic as a person who has lost control of the practice of drinking alcoholic beverages to an extent that his interpersonal, family, or community relationships have become seriously threatened or disturbed.[37]

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†Co-founder of the Quarterly Journal of Studies on Alcohol, official organ of Yale Laboratory of Applied Physiology—currently and since 1952 WHO Consultant, Mental Health Section, Expert Committee on Alcohol and Alcoholism.

§By 1952 depositories were designated by regional offices of WHO to the following countries: Belgium, Denmark, Finland, France, Germany, Ireland, Norway, Sweden, Switzerland, Yugoslavia, Argentina, Brazil, Canada, Chile, Uruguay, Paraguay. A number of depositories have been established in the United States by public or private agencies within the states.[16]

‡The Yale University workers have been instrumental in establishing and supporting:

1. The Quarterly Journal of Studies on Alcohol (1940).
2. Alcoholism Treatment Digest (a bimonthly publication).
3. Classified Abstract Archive of Alcohol Literature (1941).
4. Yale Clinic Plan (1944).
5. National Committee for Education on Alcoholism (independent of the Yale group since 1949) (1944).
6. Yale Center of Alcohol Studies—1945 (separate from the Laboratory of Applied Physiology).
7. Yale Summer School of Alcohol Studies (1942).
8. Summer School of Alcohol Studies in other states (1949).
9. Consultative and advisory services to all branches of federal, state and local government.

At the state level the modern attack on alcoholism began with the formal establishment of a program by Connecticut in 1945. By 1952, 38 (now 40) states and Washington, D. C., had passed legislation recognizing alcoholism as a public health problem and created boards or other official agencies to establish programs for dealing with the problem.[8] The National States' Conference on Alcoholism,* an association of administrators of state alcoholic programs, was created in 1950. Its membership comprises representatives from most states having programs for the study and treatment of alcoholism.[48]

Growing federal interest led to the following statement[9] by the Public Health Service in 1951:

"The U. S. Public Health Service's interest in alcoholism stems from its long-standing concern with the basic problems of addiction. The present consideration of alcoholism as a public health problem involves a coordinated program in which the National Institute of Mental Health serves as the focal point of the definitive approach to the problem as a whole. Two other units of the service are currently concerned with particular aspects of the problem, namely, the Division of Occupational Health of the Bureau of States' Services and the Division of Hospitals in the Bureau of Medical Services. The divisions just mentioned collaborate with the National Institute of Mental Health with respect to research and other matters of mutual interest.

"The basic public health approach to alcoholism emphasizes the need for detection and treatment of early stages, and the development of long-range programs for prevention through education and coordinated community efforts. The National Institute of Mental Health, through its community-services activities, endeavors to make clear the symptomatic nature of alcoholism, to emphasize the importance of general medical and mental health services in arresting it, to foster more adequate methods of rehabilitation, and to apply more effective measures of prevention. The approach to these objectives involves a wide base of cooperative participation of agencies working at local levels.

"The Public Health Service is prepared to support research of a basic or applied nature in the field of alcoholism. Grants for such research may be made to universities, hospitals, laboratories, other public or private institutions and to individuals in accordance with the provisions of the National Mental Health Act."

ALCOHOLISM IN CALIFORNIA

Although the law establishing California's Alcoholic Rehabilitation Commission (Chapter 22, Statutes of 1954, Extraordinary Session) was not passed until 1954, there is no shortage of historical evidence to attest the traditional interest of the State in alcoholism as both a medical and social problem. Section 3 of the five sections detailing the duties of the State's new Board of Health (now called the Department of Public Health) in 1870 reads: "It shall be the duty of the board, and they are hereby instructed, to examine into and report what, in their best judgment, is the effect of the use of intoxicating liquor, as a beverage, upon the industry, prosperity, happiness, health and lives of the citizens of the State; also what legislation, if any, is necessary in the premises."[38]

Thomas M. Logan, M.D., first executive secretary to the Board of Health, in the first Biennial Report (1870-1871) of the Board,[39] wrote of Section 3:

"In the full knowledge of the fact of the pecuniary loss to the State and to his family, by the idleness of the inebriate and the cost to the public treasury for his ultimate care and support in the induced impaired health, and in the last stage of destitution, to say nothing of the expense of measures of repression and punishment called for by breaches of the peace and crimes committed by the intemperate, we think the question is one which particularly commends itself alike to the statesman and the philanthropist.

"Without, however, attempting to arbitrate between two doctrinal extremes prevailing in regard to the dietetic usages of alcohol or vinous drinks, but simply looking at things as we find them, and as in the case of any other form of physical evil afflicting a fellow-creature, either standing by itself or implicating, at the same time, the moral and intellectual faculties, we should prefer to limit, if possible, its extent or diffusion by the encouragement of those preventive measures brought about by individual will, aided by and at the same time aiding voluntary association with others, rather than by legislative enactment."

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*Now the North American Association of Alcoholism Programs.

This comment of three-quarters of a century ago was strangely prophetic, for the entire history of activities relating to the amelioration of the alcoholism problem in this State is one of voluntary efforts. The recent creation of a State agency to deal with ". . . all phases of the treatment and rehabilitation of alcoholics . : ."[40] was a response to these long-standing, voluntary efforts combined with more recent public-group requests that the State Legislature seek an answer to the alcoholic problem.[42]

Voluntary partisan groups, as well as those interested only in treatment and rehabilitation, such as Alcoholics Anonymous, formed a very vigorous and vocal pressure to which a positive governmental response was inevitable. The traditional view of the alcoholic as a public nuisance and weak-willed wrong-doer whose activities warranted only imprisonment is gradually giving way to the modern concept of alcoholism as an illness.

In 1937, the year the Research Council on Problems of Alcohol was formed, the State of California made provision for the commitment of "dipsomaniacs, inebriates, and stimulant addicts" to State mental hospitals.[43] This action, designed to house and treat California's "problem drinkers," quickly demonstrated that at most those committed represented a very tiny portion of the alcoholics needing treatment. It was found that alcoholic admissions to mental hospitals soon comprised one-fifth of all admissions.[22] Yale estimates of the extent of California's problem in 1947 indicated one quarter of a million intemperate drinkers, and some sixty thousand chronic alcoholics (those requiring immediate remedial attention), with California rating second in the nation in per capita consumption of alcoholic beverages.[7,12] The most recent application of the Jellinek Estimation Formula[57] for the measurement of the prevalence of alcoholism in the United States indicates California as the state with the highest rate of alcoholism,[17] and San Francisco as the city with the proportionally highest number of alcoholics in the entire nation.[18]

The 1948 Emmet Daly study[5] of San Francisco's handling of the "drunk problem" served to highlight the problem and led to the establishment of the San Francisco Adult Guidance Center of the Health Department of the City and County.[14] Similarly, in 1949 the Sheriff's Office of Alameda County instituted an alcoholic-treatment clinic in the Santa Rita Rehabilitation Center at Pleasanton.[49]

The Governor's Conference on Mental Health in 1949 devoted an entire section to alcoholism and recommended the designation of an agency to carry out the responsibilities of the state in the field of alcoholism.[44]

Public health officials reemphasized the extent of alcoholism as a public health problem,[27,52] and the California Medical Association appointed a special committee to survey the problem[11] and define the role of the profession in dealing with it. In 1950 the Board of Supervisors of Los Angeles County engaged consultants from the Yale University Center on Alcohol Studies, Laboratory of Applied Physiology, to study the problem of alcoholism in Los Angeles County.[30] In 1952 the Yale workers began a study of alcoholics at the Santa Rita Rehabilitation Center, and, as in the past, a state-wide institute on the problems of alcoholism was held.[50,51]

The Weinberger Committee report and recommendations[42] on alcoholic beverage control and the 1954 Legislative Auditor's report on alcoholism[46] paved the way for the establishment of the State Alcoholic Rehabilitation Commission under Assembly Bill 9.

The Commission was authorized and directed by the Legislature to carry out the following responsibilities: (1) Investigate and study (a) all phases of the treatment and rehabilitation of alcoholics; and, (b) other factors necessary to the reduction and prevention of chronic alcoholism and other excessive uses of alcohol; (2) engage in all phases of the treatment and rehabilitation of alcoholics; and, (3) submit its first report to the Governor and the Legislature before March 1, 1957, and a final report and recommendations to the Governor and the Legislature before March 1959. The basic purposes and objectives of the Alcoholic Rehabilitation Commission were to plan, organize and establish a comprehensive program comprising three major activities: (1) Treatment and rehabilitation of alcoholics; (2) research into the causes and effects of alcoholism as well as the treatment of alcoholics; and, (3) the establishment of a state, national and international public information reservoir on the subject of alcoholism. The first act of the newly formed Commission was to call in consultants from the Yale Center of Alcohol Studies to study and to advise the Commission on a program for attack on alcoholism. In its report to the Commission, the Yale group emphasized the need for a balanced program of research, treatment, rehabilitation, and especially evaluation of existing treatment programs.[31]

The vigorous manner in which the Commission set about carrying out its responsibilities for its uniquely comprehensive program can be quickly seen by the following table of program expenditures for the years 1954 through 1957:

State Alcoholic Rehabilitation Commission Expenditures[45]
(1954-1957)

	Expended 1954-55	Expended 1955-56	Estimated Expenditures 1956-57
Administration, information and staff projects:			
Salaries	$16,614	$ 32,657	$ 53,520
Operating expense	11,052	11,316	28,913
Equipment	3,437	242	2,717
Consultants	5,683	2,323	1,000
Nature of alcoholism:			
Research projects	....	18,000	50,000
Extent and effects of alcoholism:			
Causation survey	....	....	50,000
Control of alcoholism:			
Research clinic, UCLA	....	50,000	50,000
Evaluation studies	11,583	40,000	40,000
Hospital pilot treatment	....	....	15,000
Community pilot clinics:			
Alameda County	....	....	34,000
Los Angeles	....	....	35,000
Sacramento	....	....	9,000
San Diego	....	....	25,000
San Francisco	....	40,199	50,000
San Jose	....	....	16,000
Stockton	....	....	21,000
Total expenditures	$48,369	$194,737	$481,150

It will be seen that from the beginning of the Commission's program, funds were allocated and spent for evaluation studies of existing alcoholic-treatment facilities (State Department of Public Health); for augmentation of the budget of an existing alcoholic-treatment facility (San Francisco Adult Guidance Center, a voluntary outpatient clinic operated by the Health Department of the City and County of San Francisco); and for the establishment of a research clinic (University of California at Los Angeles) for study of treatment methods. Later, budgetary appropriations were made for expansions of evaluation programs; for the initiation of causation studies; for medical research into the metabolism of alcohol, the neuro-endocrine system, the relation of alcohol and the liver, precise determination of blood alcohol measurements; for studies of the impact of alcoholism on the family unit and of the effect of alcoholism on law enforcement; for a survey by the Commission executive staff as to the extent of instruction in California's public schools on alcohol and its effect on the body; and for a greatly expanded system of funds for the establishment of community pilot clinics.

Some unique features in the establishment of the community alcoholic rehabilitation clinics were that over and beyond the primary purpose of rehabilitating as many alcoholics as reasonably possible, the clinics, by contract, must carry on the following activities: (1) Evaluation of patient status (diagnosis); (2) treatment and rehabilitation; (3) information—public and professional; (4) community organization and coordination; and, most importantly (5) follow-up (evaluation of the treatment program). A full account of the Commission's activities for the period cited is given in the 1957 Interim Report to the State Legislature.[45]

In the 1957 session of the State Legislature, a new alcoholic rehabilitation law was passed which abolished the Commission and created within the State Department of Public Health an Alcoholic Rehabilitation Division.[41] The responsibilities of the Health Department, like those of its predecessor, include treatment, rehabilitation and investigation.

The placement of a total alcoholic rehabilitation program in the Health Department indicates the state's recognition of alcoholism as a public health problem and responsibility. This action insures continuing support for treatment, rehabilitation and investigation with prevention as the ultimate goal.

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Gallstone Intestinal Obstruction

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• The literature on the subject and the records of 40 cases of proven gallstone obstruction in the small intestine observed at the Los Angeles County General Hospital over a 27-year period were reviewed.

The incidence of this type of obstruction is about 1.5 per cent of all cases of mechanical intestinal obstruction; and it occurs more often in women than in men—the ratio was 3.7 to 1 in the Los Angeles County General Hospital series.

In general, the majority of patients are in the seventh decade of life, although in the present series the age average was well over 70 years.

Gallstones large enough to cause intestinal obstruction almost invariably reach the intestinal tract through a fistula between the gallbladder and the duodenum.

The symptoms of gallstone obstruction are principally those of mechanical obstruction of the small bowel. The usual site of obstruction is the distal ileum. When gallstones are the cause of obstruction, the symptoms may be intermittent.

Surgical operation is the treatment of choice. Exploration should include a complete examination of the intestinal tract to make certain multiple stones are not overlooked, and the right upper quadrant should be palpated for the presence of an acutely inflamed gallbladder or more calculi.

INTESTINAL OBSTRUCTION from gallstones is associated with one of the highest mortality rates among the various kinds of intestinal obstruction. While it is important to recognize as quickly as possible the specific nature of any obstructing lesion, this is particularly true of obstruction of obturator type due to enteric gallstones. Operation is the treatment of choice. Because the symptoms caused by the migration of a calculus from the biliary tract into the intestines are likely to be intermittent and none too characteristic, diagnosis is frequently delayed and often impossible.

A review of the subject and a brief summary of 40 cases of intestinal obstruction due to gallstones, as observed in 38 patients at the Los Angeles County General Hospital since 1930, will be presented.

HISTORY

Bartholin,[1] in 1654, was the first to describe the erosion of a gallstone into the intestinal tract. Courvoisier[2] made a survey of the literature in 1890 and analyzed 131 cases; and in 1914 Wagner[10] published an analysis of 340 cases that remains as one of the most thorough surveys of the literature on this subject. Reports of approximately 800 cases of gallstone obstruction have appeared in medical records to this time.

INCIDENCE

The incidence of intestinal obstruction of this type is difficult to state. The average incidence reported in many series covering a total of 30,508 cases of intestinal obstruction of all kinds was 1.5 per cent.

In the 27 years 1930 through 1956 there were 6,063 cases of small bowel obstruction observed on the surgical wards at the Los Angeles County General Hospital. The records of 40 proven cases of gallstone intestinal obstruction in that period were available—an incidence of 0.6 per cent.

In recent years at this hospital there has been an increasing awareness of obstruction of this type. Case recording has improved. Although only 22 cases of gallstone obstruction were noted from 1930 to 1950, in the six-year period 1951 through 1956 there were 18 such cases among a total of 1,697 cases of small bowel obstruction, an incidence of 1 per cent.

Gallbladder disease occurs from two to three times as often in women as in men.[3,8] About the same ratio holds with regard to obstructions due to gallstones. In the earlier reports in the literature the female-to-male ratio of gallstone obstruction was similar to that for the sex incidence of cholelithiasis. In the more recent literature there is an increasing preponderance of females with gallstone obstruction. In the Los Angeles County General Hospital series the ratio was 3.7:1 (Table 1).

The average age of patients with gallstone obstruction has changed somewhat from that reported in earlier years. In Courvoisier's review published in 1890 the average age of female patients was 58 years and of males 60. More than 80 communications were reviewed in surveying the reported incidence of gallstone obstruction in more recent times.

TABLE 1.—*Incidence of Gallstone Intestinal Obstruction by Sexes*

	Females	Males	Ratio
Courvoisier[2]-Wagner[10] (to 1914)	195	80	2.4:1
Collected reports (1914-1956)	249	33	7.5:1
Present series (1930-1956)	30	8	3.7:1

Presented before the Section on General Surgery at the 86th Annual Session of the California Medical Association, Los Angeles, April 28 to May 1, 1957.

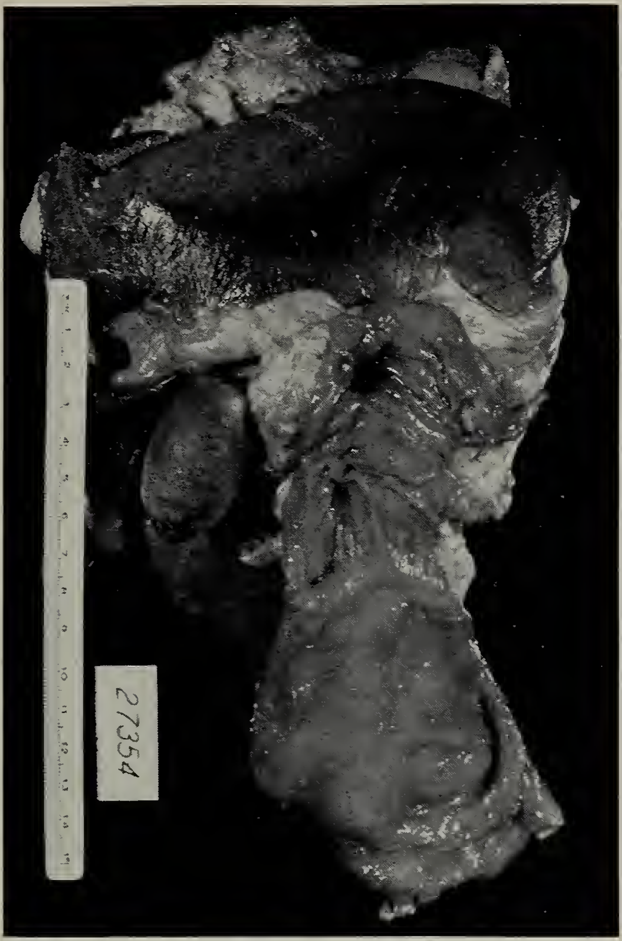

Figure 1.—A typical cholecystoduodenal fistula in autopsy specimen from case of gallstone intestinal obstruction. The large obstructing calculi can also be noted.

Although not a complete survey, this covered a combined group of more than 400 cases. The average age of patients was 64 years and was about the same for men as for women.

As is usual for a series of cases reported from the Los Angeles County General Hospital, the average age of the patients was greater than for other comparable series—for women, 71 years; for men, 76. The range was from 42 to 90 years.

The youngest patients of record were a 25-year-old woman reported upon by Wortmann[11] and a 26-year-old man whose case was reported by Ritter.[7] The 90-year-old woman in the present series and the 93-year-old woman whose case was reported by Shore, Jacob and Cannon[9] are the oldest.

PATHOGENESIS

Gallstones may enter the intestinal tract by eroding through some part of the gallbladder or common duct. It is estimated that to cause an obstruction a calculus must be more than 2 cm. in diameter. In the great majority of instances the stones causing obstruction enter the bowel through a cholecystoduodenal fistula such as the one shown in Figure 1. In all cases in the present series entry was through a fistula of this type.

Other modes of entry are much less common. Fistulae have been reported connecting gallbladder to jejunum, ileum, stomach, colon, renal pelvis, the urinary bladder and even the vagina and bronchus. The reported incidence of spontaneous internal biliary tract fistula as observed in biliary operations, ranges from 1 to 4 per cent.[4,5]

Occasionally a large calculus may erode partly through the gallbladder or common duct into the duodenum. Symptoms of pyloric obstruction may result.

The process of internal fistula formation begins with recurrent cholecystitis. A stone then causes ulceration and erosion of the gallbladder mucosa by pressure on the softened, inflamed gallbladder wall. In response to this process, pericholecystitis is produced and adjacent viscera become adherent to wall off the impending perforation. A fistula is finally formed between the gallbladder and the adjacent viscus, which is usually the duodenum. The gallbladder, once free of calculi, rapidly becomes a blind sinus tract and contracts down to a small fibrous remnant. This pathologic sequence was confirmed in the study of the cases in the present series.

SYMPTOMS AND DIAGNOSIS

Often clinical evidence of fistula formation and passage of the stone into the intestinal tract is scanty. When a stone does pass through a fistula, there may be severe pain and nausea and vomiting, or the calculus may enter the bowel with only minor effects. Regardless of the sequence of onset, the paramount symptoms are those of an intestinal obstruction. The train of symptoms that ensues depends principally on the size of the stones. In general, large stones will cause more persistent symptoms by obstructing early. Smaller stones may pass down and out of the alimentary tract without causing severe symptoms. If the stone is irregular or rough, it may produce intense local trauma with subsequent spasm. Characteristically, gallbladder obstruction is less clear-cut than any other kind of mechanical obstruction.

Not infrequently the symptoms will be those of intermittent obstruction, the nausea, vomiting and colic subsiding completely as the stone becomes dislodged temporarily and moves on down the bowel. Five of the cases in the present series were of that nature; all but one were misdiagnosed.

Constant pain, which may be localized, is consistent with the impaction of the stone at one point in the intestine and severe local irritation, edema and, not infrequently, gangrene. In five of 37 cases in this series in which operation was done, gangrenous areas of various sizes were present.

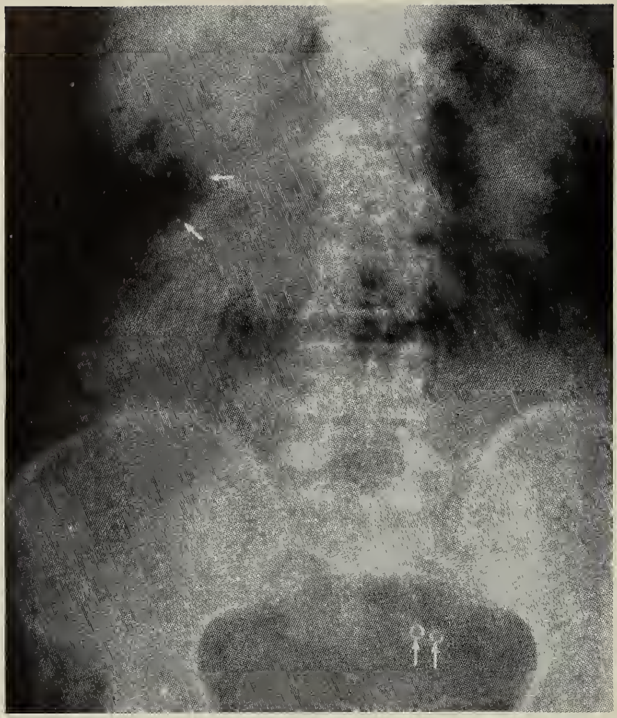

Figure 2.—A flat film of the abdomen showing classical findings of gallstone intestinal obstruction—dilated loops of small bowel, air in the biliary area, and radiopaque calculi in the lower abdomen.

In general, about 80 per cent of the patients have a history of biliary tract disease or of symptoms compatible with that diagnosis. Of the 38 patients in the present series, 19 gave either a history of proven gallbladder disease or of symptoms adequate to make a presumptive diagnosis. In 11 others the history was entirely negative for symptoms referable to the biliary system. Of the remaining eight, four were too ill to give good histories, and in the others the history as recorded was inadequate in detail.

Rigler, Borman and Noble[6] set down radiologic criteria which help in making an accurate diagnosis of this disease by x-ray examination of the abdomen. They listed four roentgen signs that are indicative of obstructions due to gallstones: (1) Air or occasionally contrast medium in the biliary tree; (2) direct visualization of the stone or sometimes indirect visualization of the stone by means of contrast medium within the intestine; (3) a change in position of a previously noted stone; and (4) in all of the foregoing situations, roentgen evidence of complete or partial obstruction.

The most frequently observed diagnostic sign is air in the biliary tract. This enters from the intestinal tract through the fistula produced by the migrating stone. Films can be centered over the right upper quadrant. A larger x-ray film should be searched carefully for radiopaque stones. They are difficult to see when overlaid by intestinal loops filled with fluid and gas or when they are superimposed on skeletal shadows. Figure 2 illustrates two positive roentgen signs often seen in gallstone intestinal obstruction—radiopaque stones in the pelvic area (two stones in this case) as well as air in the biliary tract. In this series the majority of abdominal films lacked the positive diagnostic signs. In only one instance was air seen in the biliary system. In six cases the stone was visible among dilated intestinal loops. In another case, an earlier film was available which showed a change of position of a radiopaque stone from the right upper quadrant to the left lower quadrant.

TABLE 2.—*Site of Gallstone Intestinal Obstruction*

	Courvoisier[2]	Wagner[10]	Present Series
Duodenum	3	9	....
Jejunum	5	30	3
Upper and mid-ileum	23	103	9
Lower ileum	10	53	26
Ileocecal valve	7	15	1
Appendix	2	....	....
Sigmoid colon	2	13	1

In the total series the operating surgeon properly diagnosed gallstone obstruction preoperatively in 17 instances. In 16 other cases the diagnosis was mechanical intestinal obstruction. No diagnosis was made in two instances; neither patient was operated upon and both died. A third case was misdiagnosed as a sealed off perforated viscus; operation was not done and the patient died. In the remaining cases the diagnoses were acute appendicitis, mesenteric vascular occlusion and carcinoma of the cecum. The correct diagnosis in these cases was made at operation and the obstructing calculi were removed.

SITE OF OBSTRUCTION

The ileum is the site of impaction and obturation obstruction in the majority of cases of gallstone obstruction. A comparison of the sites of obstruction in this series with the collected series reviewed by Wagner and Courvoisier is made in Table 2.

Four patients in this series had multiple stones. One patient had two large stones impacted in the terminal ileum and two other large stones in the common duct. In another case obstruction 12 inches from the ileocecal valve was due to an impacted stone 3.0 cm. in diameter, while four smaller ones, all less than 1.0 cm., were noted to have caused erosion with perforation in the mid-ileum above the site of impaction. In the same case another large stone was removed from the gallbladder at operation. In another case two large calculi were removed from the terminal ileum. One patient had nine stones in the mid-ileum.

Two patients in the series were treated for recurrent episodes of gallstone intestinal obstruction. In

TABLE 3.—*Mortality Rates Associated with Gallstone Intestinal Obstruction*

	Mortality Rate (Per Cent)
Collected series:	
700 cases	50.0
Present series (1930-1957):	
40 cases	40.0
Collected series (1950-1956):	
103 cases	18.4
Present series (1951-1957):	
17 cases	24.0

one case the second obstruction occurred approximately two weeks after operation and in the other the interval was two months.

TREATMENT AND OPERATIVE TECHNIQUES

Early operation is the treatment for gallstone obstruction. Time must be taken to evaluate and partially correct electrolyte and fluid losses, since many of the patients enter the hospital late in the course of the disease. At exploration the entire intestinal tract must be examined for multiple calculi. Occasionally the stone may be pushed into the colon and around into the rectum. This is the procedure of choice if it can be done easily; however, these patients are usually elderly and frequently in desperate condition and any excessive trauma must be avoided. If the stone can be loosened and removed proximally, it can be removed through a segment of intestine where there is less edema and inflammation. The enterotomy incision should be closed transversely. A 1 per cent solution of Neomycin into an isolated segment containing the stone is a procedure of value. During the operation the right upper quadrant area should be examined to ascertain the type of biliary disease present. If additional large stones are present they should be removed by cholecystostomy if the patient's condition is not too precarious.

RESULTS OF TREATMENT; MORTALITY (Table 3)

In general the longer the duration of symptoms before operation, the higher the mortality rate. In some cases obstruction is intermittently relieved as the stone shifts position. Nevertheless, delay in diagnosis is the chief reason for the high mortality in this type of intestinal obstruction. Sixteen of 38 patients in the present series died. In two cases cholecystostomy was done concomitantly with release of the obstruction, and in one case cholecystectomy. One elective cholecystectomy and two cholecystostomies were done months after the acute obstruction for relief of persistent biliary symptoms.

The average of mortality rates reported in various collected series was 50 per cent (Table 3). At the Los Angeles County General Hospital there were 24 recoveries and 16 deaths in the 27-year period surveyed. Three of the deaths were nonoperative. This was an overall mortality of 40 per cent and an operative mortality of 32.5 per cent. In more recent series the mortality rate has been increasingly better, although it still remains quite high when compared with the rates associated with small bowel obstruction of other types.

When the advanced age of the Los Angeles County General Hospital patients is considered, it is remarkable that the mortality rate compares so favorably with the general average. In spite of better diagnosis and undoubtedly improved facilities for supportive care the gross mortality rate for the 17 patients treated in the last six years of the study was still 24 per cent and the operative mortality rate 18 per cent.

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Absence from School

Its Relationship to Illness in the Community

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• The absences at one elementary school in Los Angeles and the reasons for the absences during the school year 1954-55 were studied. The absence rate was then compared with the rates during two previous years at the same school and with the absences at three other elementary schools in Los Angeles and with one industry. There were similar absence curves for the several years in the single school and among the schools and industries which were compared. The highest absence rates were found during the winter months and common respiratory tract disease accounted for the highest percentage of absences from school throughout the year.

ABSENCE FROM SCHOOL due to illness is a major public health problem from the standpoint of epidemiology and health education. As progress is made in medical knowledge, skill and armamentarium, some diseases are brought under control or are virtually eliminated, while others come into sharper focus. For example, smallpox is now practically nonexistent in California, but the common respiratory tract infections are of increasing importance and interest to us as more is learned about the nature of viral diseases. It is important, therefore, to recurrently review the causes of absence from school in various areas and also to attempt to correlate the causes with the frequency of illness in the community. For it is important to know whether the absences due to illness from a given school are peculiar to that school or are only a reflection of prevalent illness in the community. Physicians, school authorities and parents desire such information regarding the causes of absence from school to guide them in establishing effective policies and attitudes.

This study is concerned with establishing the pattern of the absences from school in the University Nursery and Elementary School of the University of California at Los Angeles. These patterns are compared with the absence patterns of other years in the same school, with patterns in other schools in diverse areas of Los Angeles in the same year, and with patterns in one major industry, a department store. Data has also been obtained in as much detail as possible regarding the reported causes of absence from the University school during one year.

MATERIALS AND METHODS

The University Nursery and Elementary Schools are on the campus of the University of California at Los Angeles. The enrollment of 372 children is divided in the following way: (1) Nursery school containing three sections of ten to fifteen children each, (2) kindergarten with two sections of twenty children each, and (3) grades 1 to 6 with two classes at each grade level having twenty-five students each. The children who attend are mainly from middle and upper class families. They are well cared for at home and all have private medical supervision.

During the school year 1954-1955 accurate records were kept of every absence from school and of the major reason for this absence as stated by the parent. The information was entered on a three by five inch printed card (shown below) and this, instead of the usual absence note, was brought to the teacher when the child returned to school after an absence. For the preceding school years 1952-1953 and 1953-1954, accurate absence data was available, but the causes for absences were not documented.

The data obtained from the three other schools representing different health districts and from the one industry, a large department store with 1,350

UNIVERSITY OF CALIFORNIA, LOS ANGELES
University Elementary School

Name:.. Grade:........ Date................

ABSENCE FROM SCHOOL WAS DUE TO

.... Respiratory infection (cold, cough, sore throat, earache, flu, laryngitis) Fever—Yes........ No........
.... Intestinal upset (vomiting, diarrhea)
.... Measles—3-day........ or Regular........
.... Mumps
.... Chickenpox
.... Allergy (specify)..
.... Other (holidays, illness)..

Dates absent.......................... Signature..

From the Department of Pediatrics, School of Medicine, University of California at Los Angeles, Los Angeles 24.

Aided in part by a grant from Mead Johnson & Co.

Submitted October 11, 1957.

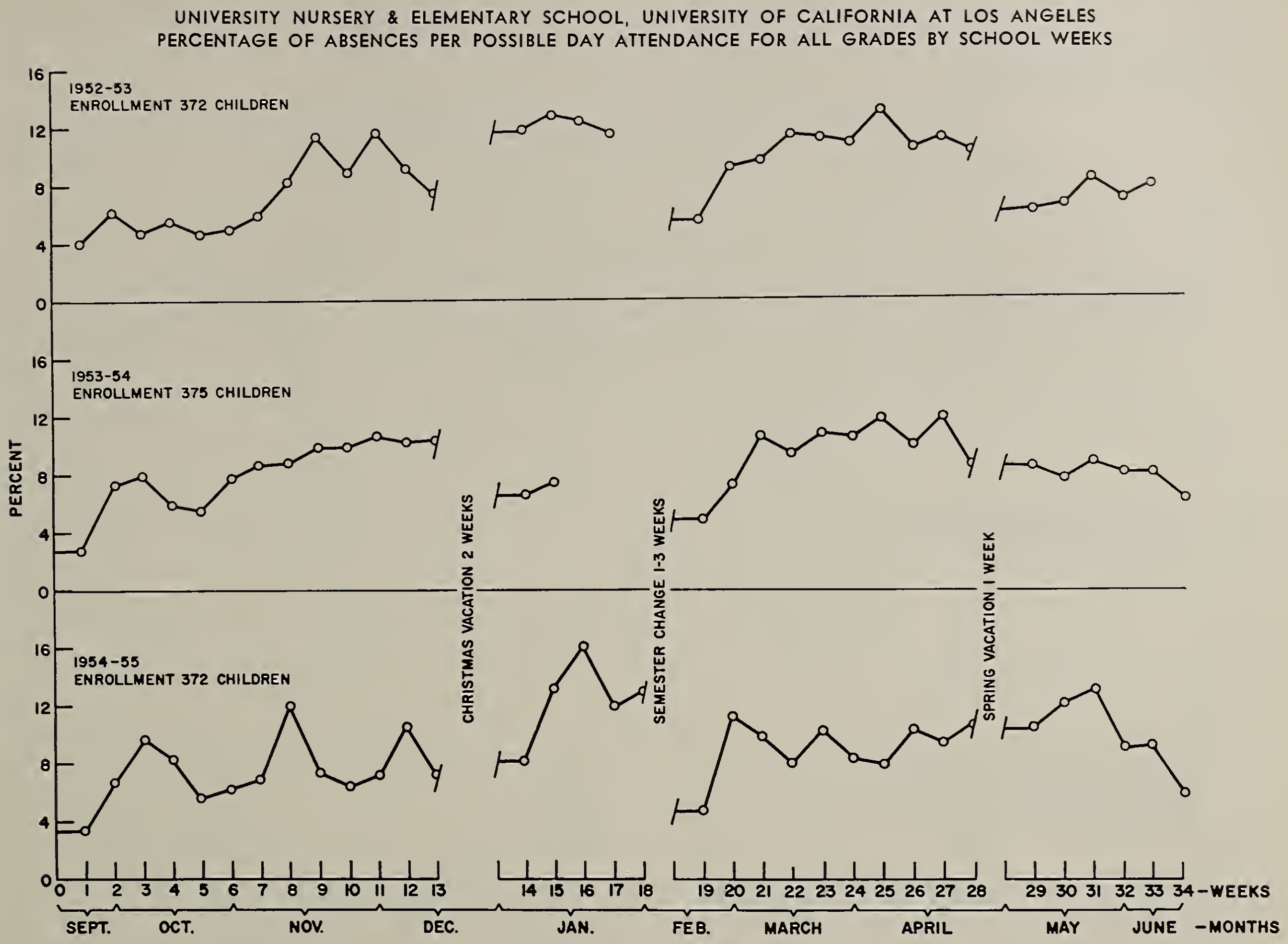

Chart 1.—A comparison of the absences from the University Nursery and Elementary School of the University of California at Los Angeles for the school years 1952-53, 1953-54 and 1954-55. The absences are expressed as percentage of possible days attendance.

TABLE 1.—*A Table of the Causes of Absence from the University Nursery and Elementary School of the University of California at Los Angeles for 1954-55 Given as Percentages of the Total Number of Absences for Each Month.*

	Respiratory Infection	Intestinal Upset	Measles	Mumps	Chickenpox	Allergies	Other Illness	Skin Infection	Accident and Injury	Family and Personal*
September	53.1	3.1	0	0	0	1.1	4.2	2.1	0	36.4
October	59.9	5.6	0	0.3	0	1.6	8.7	0	0.6	23.3
November	62.1	8.8	0	0.5	0	1.4	9.2	0.5	0.5	17.0
December	65.1	10.7	0	0	0	1.7	9.0	1.3	0	12.2
January	71.1	10.5	0	0.5	0	0.8	6.6	0.8	0	9.7
February	64.0	19	0.4	0.4	0	0.4	3.3	0.8	0.4	11.3
March	68.4	11.1	1.0	0	1.4	0.3	4.6	1.0	0	12.2
April	53.2	7.8	0.8	0	7.4	1.2	3.3	0.8	0.4	25.1
May	41.8	7.9	3.7	1.8	9.3	0.5	9.3	1.9	1.4	22.4
June	43.0	2.4	20.8	0.6	2.4	1.8	3.2	0	1.2	24.5

*Included household moving, trips, emotional upsets, appointments with physicians.

employees, was gathered by the Los Angeles City Health Department during 1954-1955 in an attempt to follow community illness trends.

From the raw data obtained from these surveys, the percentage of absence from school or work per possible days of attendance was computed by the following formulation: Total number of days of absence in the school or industry, divided by the number of persons times the number of days of school or work during the week, times 100.

Thus the findings for the University Elementary School for the three years could be compared, as could the absence data for the University Elementary School and one local industry. Furthermore, by use of the material obtained from the absence cards, a table was constructed listing causes of absences

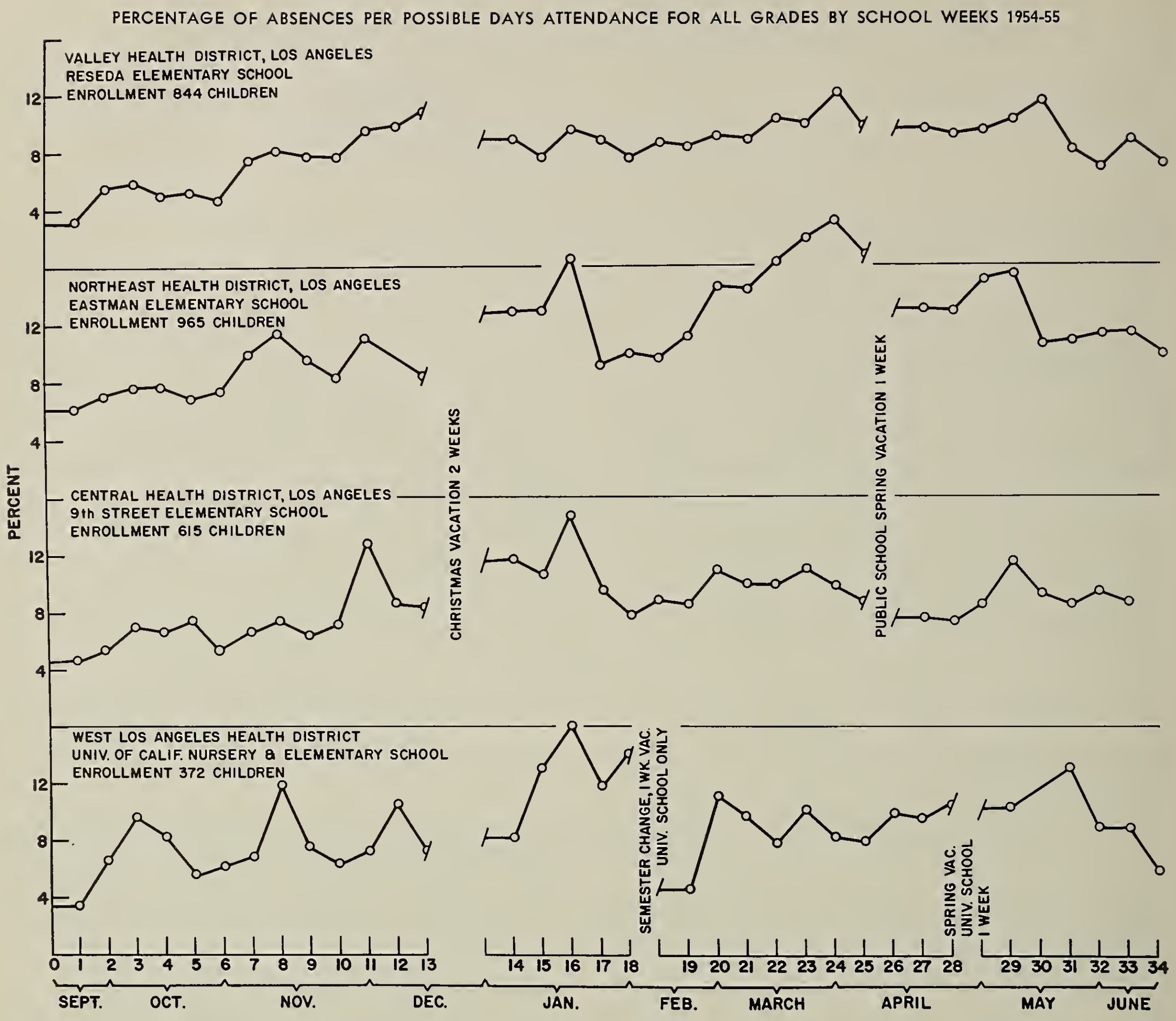

Chart 2.—A comparison of the absences from elementary schools in four separate health districts in Los Angeles during the school year 1954-55. These absences are expressed as per cent of possible days attendance.

by months and showing what proportion of total absences was ascribable to each cause.

The absence data from the University School for the years 1952-1953, 1953-1954 and 1954-1955 was related, in a graphic chart, to the number of possible days of attendance (Chart 1). In these graphs a tendency for the proportion of absences to increase through November and December, to decrease in late January or early February and then to increase again until late April or May was illustrated. That the sharp drop in late January or early February is not necessarily related to the vacation period will be discussed later. The high proportion of absences in May of 1955 is related to a high incidence of measles and chickenpox at that time. It is interesting that each year, except 1952-53, within the first two to four weeks after the beginning of school there is a small but definite rise in the number of absences. It is significant, however, that although after some of the brief vacations during the school year the absences decreased, after others they were the same or increased. The average proportion of absence per possible days' attendance for the three years was very similar—8.5 per cent, 8.4 per cent and 8.9 per cent for the three school years 1952-53, 1953-54 and 1954-55.

The data on absences for the school year 1954-55 for the four elementary schools in the separate districts in Los Angeles including the University School were graphed together (Chart 2). The four schools show trends for greater numbers of absences during the winter months as compared with the fall. Some of the peak periods of absences are in identical weeks in at least three of the schools, particularly in December and January. The relatively large number of absences in all of the schools during the late spring months, April and May of 1955 probably was related to an unusually high incidence of measles in Los Angeles in that year. This is also

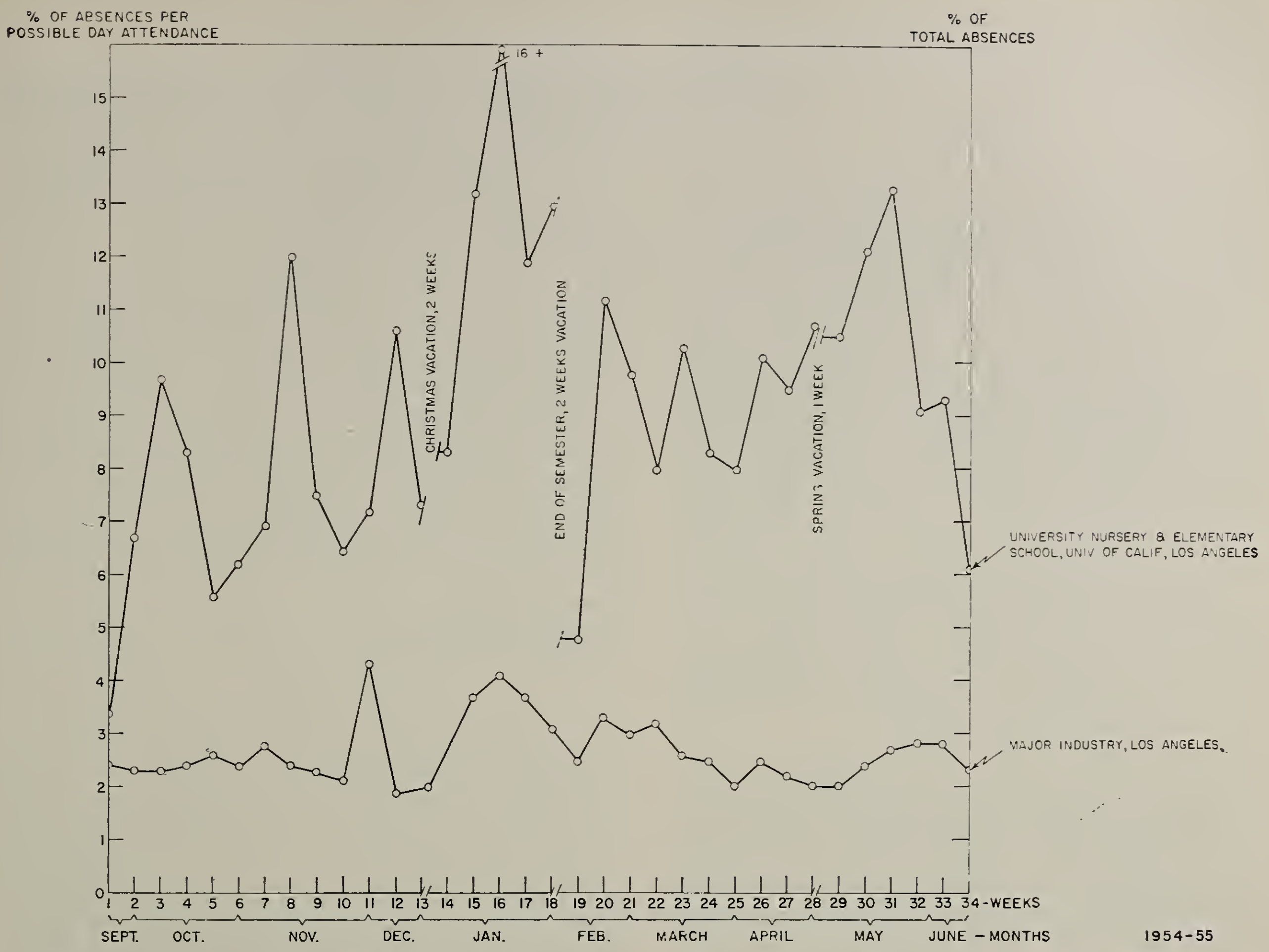

Chart 3.—A comparison of absences from the University Nursery and Elementary School of the University of California at Los Angeles and the absences from a major industry in Los Angeles (a department store) during the school year 1954-55.

shown in Table 1. The average proportions of absences per possible days' attendance for each school for the entire year 1954-55 were: Reseda, 8.2 per cent; Eastman, 11.5 per cent; Ninth Street, 9.0 per cent; University Elementary School, 8.9 per cent.

The absence data for the University Elementary School and one major industry were graphed together, allowing more space for each point plotted than on the previous graphs (Chart 3). This shows the rapid rise and fall of the absences in the elementary school compared to the rather stable attendance in the industry. However, in the early part of December and in the middle of January and to a lesser extent in February and March, peak absences occurred in the industry and coincided with peaks in the elementary school. It is interesting that there was a sharp decline in the absences after the between-semesters vacation in the elementary school in January. However, there was a similar decline in the absences from the industry during this same period and the industrial employees did not have a vacation period. This would suggest that the incidence of illness in the entire community was declining at that time.

In Table 1 are indicated the causes of the absences from the University Elementary School in 1954-55 by per cent for each month. In every month respiratory tract diseases were the major cause of absence; they were blamed for more than 60 per cent of the absences from November through March. The incidence of intestinal upsets was increased during the same period as that in which respiratory infections were increased. Mumps seemed to occur sporadically throughout the year while measles and chickenpox came in the late spring. Absences for allergic diseases did not follow any particular pattern. Other causes of absence because of illness included infectious mononucleosis, infectious hepatitis, undiagnosed fevers and surgical operation. In these groups absences did not seem to follow any temporal pattern, nor did absences because of skin infections. It is interesting that accidents and injuries are minor causes of absence from school. As to the absences for family and personal reasons, the only explanation that comes to mind for the fluctuations in incidence of absence of this order is that possibly the September high incidence may reflect delays in returning from summer vacations.

DISCUSSION

In this study it was observed that in the University Nursery and Elementary School the periods of peak incidence of absences were fairly similar from year to year. Furthermore, in 1954-55 the periods of increased absences in other schools in divers areas of Los Angeles and in one major industry (department store), were similar. An analysis of the reported causes of the absences for the year 1954-55 clearly indicated that common respiratory tract disease was the dominant cause of absences throughout the year, but especially so in the winter months when the frequency of absences was the highest. That the common respiratory diseases are generally the commonest cause of absences from school has been amply demonstrated in many areas.[2,4,6,7,8] Furthermore, Dingle[3] and Lidwell[5] demonstrated that common respiratory tract disease is the major cause of illness in the community.

It is clear, then, that in the problem of school absence the problem is not primarily epidemic childhood diseases, such as measles, mumps and chickenpox or such serious problems of the past as diphtheria and smallpox; the problem in the schools is common respiratory tract disease, as it is in the community as whole. Furthermore, respiratory tract disease increases in frequency in the school and in the community at the same time, as was noted in this study and amply illustrated by Dingle[3] and Lidwell.[5] It is interesting that both of these investigators indicated that in families with school children there is a greater than ordinary incidence of common respiratory disease in the parents and in pre-school siblings. It is possible that the school may play a significant role in the dissemination of the illness. It is interesting in this regard that a small but sharp peak of absences was noted about the second to fourth week after school starts in the fall. Dingle, in his study of Cleveland families, indicated a similar peak in respiratory infections in the month of September, but did not comment on any relationship with the opening of school. It would seem that the process of bringing all the children together in the school may be sufficient to initiate a sudden rise in the common respiratory diseases.

It is felt that the common practice of excluding the pupil from school after symptoms of upper respiratory infection develop may not be very effective. When the incidence of common respiratory infection is high in the community and in the school, many children attend whose symptoms are so minimal they go unnoticed by parents, teachers and the child. Furthermore, Andrewes[1] demonstrated in experimental subjects that respiratory disease can be transmitted from one person to another the day before symptoms develop.

It is important, therefore, that as much information as possible be gathered regarding the spread of common respiratory tract diseases in the school and community, and regarding individual resistance to infection, so that ultimately sound school health policies may be developed and health education be more realistic.

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No. 1 Killer

Automobile accidents are responsible for half the peacetime deaths in the Army.

Prepartum Nausea and Vomiting

A New Approach to Treatment

WILLIAM G. CALDWELL, *M.D.*, and KENNETH HOBBS, *M.D.*, Los Angeles

• A controlled study of 101 patients indicated that a combination of amphetamine and Rauwolfia was effective in the treatment of prepartum nausea and vomiting. Good to excellent results were obtained in 53 (83 per cent) of 64 patients who received the combination. Five patients reported fair results; six were not benefited by the treatment.

Only five of a control group of 37 patients who received placebos reported good results.

In addition to relief of the symptoms of nausea and vomiting, concomitant emotional disturbances, notably anxiety and depression, were alleviated by the drug combination.

THE IMPORTANCE of an adequate therapeutic approach to the control of nausea and vomiting of pregnancy is sometimes overlooked. Yet, when we consider that these symptoms are a complication in more than half of all pregnancies—one observer said they occur in nearly 80 per cent[2]—it is evident that they represent a very real problem. Many women, moreover, have moderate to severe symptoms throughout the greater part of the gestation period. Any disorder with so high an incidence cannot be ignored, and promising therapeutic measures of control merit careful investigation.

The lack of definitive etiologic knowledge of the emesis of pregnancy makes it difficult to evaluate either the need for or the efficacy of drugs. There are a number of theories ascribing an organic basis for prepartum nausea and vomiting, and endocrine, allergenic and nutritional factors may all play a role in this syndrome. But whatever the physiological predisposition, there is little doubt that psychological factors are a determinant in both mild and severe nausea and vomiting of pregnancy, and the extent and degree of these symptoms have been shown to correlate with the emotional stress to which the patients were subjected before and during the pregnancy.[5]

In a previous study[1] it was demonstrated that alleviation of emotional symptoms by the administration of an antidepressant drug was highly effective in the treatment of prepartum nausea and vomiting. The results obtained, moreover, gave added support to the theory that the syndrome is psychic in origin. The present study was undertaken to evaluate the efficacy of a combination of two mood-elevating drugs, and to confirm the value of such a therapeutic approach.

METHOD

The present study, conducted over a 16-month period, included a total of 101 pregnant women. They varied in age from 13 to 38 years, more than half being in the 14 to 20 year range; and the group included members of the White, Negro and Mexican races. All patients complained of persistent nausea and/or vomiting, and symptoms were of such severity that the women themselves requested treatment. Each was an unwed mother, and was an outpatient at St. Anne's Maternity Hospital, in Los Angeles, a specialized teaching and charitable institution devoted to caring for unwed mothers. In addition to the general psychic unrest produced by pregnancy, these patients exhibited an unusually high degree of tension, anxiety and depression as a result of the stress of self-recrimination and social condemnation. Overweight was a frequent complaint. This symptom is encountered frequently in unwed girls and is usually associated with some form of depression or nervousness.

The medication selected for clinical trial contained in a single tablet* 1 mg. of the alseroxylon fraction† of rauwolfia serpentina and 5 mg. of amphetamine sulfate. The efficacy of this combination as a mood-elevating agent when symptomatic complaints are exaggerated by underlying psychogenic factors, its anorexic effect in controlling the appetite, and freedom from side effects had been well established.[3,4,6]

The prescription that each patient started with was one tablet three times daily half an hour before meals. Dosage was later adjusted to the individual, some patients finding that two tablets per day were adequate for maintenance of effect. A number of patients were used as controls and received placebos instead of medication. The double-blind technique was followed in the dispensing of the tablets; neither

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From St. Anne's Maternity Hospital, Los Angeles.
Submitted July 2, 1957.

*Rauwidrine®—Riker Laboratories, Inc., Los Angeles.
†Rauwiloid®—Riker Laboratories, Inc., Los Angeles.

patients nor medical personnel knew which preparation was being administered.

RESULTS

At the termination of the study it was found that 64 of the patients had received active medication and 37 had been given placebos. Specially designed rating charts had been distributed to the women so that they could keep a record of the effects obtained while participating in this trial. Of the 64 who received the antidepressant drug combination, 53 (83 per cent) reported good or excellent results. Only five of the 37 women given placebos reported similar results. The results, in more detail, were as follows:

	Excellent	Good	Fair	None	
Rauwidrine	30	23	5	6	64
Placebo	1	4	8	24	37
					101

It is of further interest that four patients who were receiving placebos and obtained no relief of symptoms after several weeks, requested other medication and were given another envelope of unidentified tablets. All reported good or excellent effects with these, and subsequent identification showed that in all four cases the tablets contained the drug combination. Although it is probable that some of the patients who received active medication obtained a "placebo response," it is felt that the results of this trial are significant in indicating a specific therapeutic action for the drug combination.

In patients receiving benefit from the medication, there was usually complete alleviation of symptoms by the second week of therapy. Concomitant with the disappearance of nausea and vomiting, the patients experienced a sense of well-being with relief of anxiety and depression. They were less nervous and did not give way to "crying spells." Appetite control, with desirable loss of weight or maintenance of weight was a further benefit of therapy for many of the women.

Of particular importance was the almost complete lack of side effects in this group of patients. Only three reported wakefulness while taking three tablets per day. This was overcome by reducing the dosage to two tablets daily. One patient reported the medication made her ill, but was unable to clarify her statement in any way. No other untoward effects were noted. In the group who received only placebo, three patients felt that therapy produced increased emesis. It should also be noted here that the drug combination produced no adverse effect on fetus or mother; babies were normal in every respect and there were no complications in delivery attributable to the medication.

COMMENT

It is felt that the results of this study clearly illustrate the effectiveness of an antidepressant medication, and the value of such a therapeutic approach, for pregnant patients with nausea and vomiting caused or aggravated by anxiety and depression. This work confirms the senior author's report[1] that amphetamine is probably the agent of choice in these cases, and demonstrates certain advantages of the Rauwolfia-amphetamine combination over the latter drug alone. The almost complete absence of jitteriness and insomnia due to amphetamine was noticeable. This is in agreement with other reports[4,6] that the combination offers additive mood improvement with elimination of any side reactions produced by sympatheticomimetic drugs. We have noted that often the use of barbiturates is necessary in dealing with excessively agitated patients, and were pleased therefore to discover that the use of this drug combination minimizes the necessity for additional barbiturate therapy, an observation also reported by Prouet.[4]

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Bursitis—Often an Inexact Diagnosis

DONALD P. CARPENTER, *M.D.*, Riverside

• The word *bursitis* is like *arthritis* in that it must be modified by another before it has meaning precise enough for useful medical description and communication. It is used loosely and generally to describe a number of clinical and pathological entities, among which are true primary bursitis, cystic degenerations, calcareous deposits in ligaments and tendons, and so-called "chronic sprains" where a calcified deposit cannot be demonstrated.

It is possible to differentiate between these four entities in the light of present-day knowledge and to make a more accurate statement of diagnosis.

Bursitis is often a symptom . . . not a primary disease and hence not a proper diagnosis.

Calcareous deposits in ligaments and tendons with evident inflammatory reaction have been described in many locations. No area seems to be immune but the rotator cuff and supraspinatus tendon of the shoulder show the greatest incidence. The term *inflammatory tendinitis* appears to be a reasonably useful one for describing the clinical manifestations of the disease. For further accuracy it can be modified by saying that it is with calcification or without calcification as the case may be.

There might be serious consequences from confusing the pain radiation of inflammatory tendinitis (with or without calcification) around the trochanteric region of the hip with true sciatic neuritis arising from a herniated intervertebral disk.

THE TERM *bursitis*, although listed as a diagnosis, still comprises a number of clinical and pathological entities which can and should be separated. Not only that, to use the term *bursitis* often violates good medical practice by naming the symptom as a diagnosis. The fuzzy thinking that this engenders tends to hinder the development of knowledge of an interesting group of diverse pathological conditions, many of them rewardingly responsive to treatment.

Nothing in this paper is new. All of the information contained in it has been reported on before. The purpose of this communication is to help direct the use of the available knowledge in a way to make more accurate diagnoses possible.

Bursitis is used as a diagnosis loosely and generally to describe a number of clinical and pathological entities, among them primary bursitis, cystic degeneration, calcareous deposits in ligaments and tendons and so-called "chronic sprains" where no calcified deposit can be demonstrated.

Primary Bursitis

Primary bursitis can be separated readily from the others by definition: It means primary inflammation of a bursa. If it is secondary to another process, then by definition it is a symptom and not a diagnosis.

Primary bursitis is commonly and best seen in the olecranon or prepatellar areas where these more superficially placed synovial sacs become directly irritated from multiple traumata or from hemorrhage or infection. This condition is usually diagnosed *bursitis;* it *is* bursitis. But, for the sake of accuracy, qualifying terms such as *septic, traumatic* and *chronic villous* should be used, just as joint disturbance is not simply arthritis but is defined with terms like *septic, rheumatoid* and *osteo.*

Primary bursitis is also seen in the deeper-lying bursae, usually from trauma with hemorrhage, but is usually not diagnosed as such. Hemorrhage into a bursal sac appears to cause only a moderate amount of pain. The diagnosis of primary bursitis is usually not made in such circumstances due to concomitant trauma to adjacent structures, which figures more prominently in the diagnosis.

Subacute and chronic types of bursitis are recognized in both the superficial and deeper-lying bursae. Commonly in these types, there are thickening of the synovial wall, villous projections and cords of fibrous and synovial tissue. These types are properly called bursitis.

Cystic Degeneration

Cystic degeneration often involves a bursa. A bursa is a synovial or serous-lined, usually collapsed, cavity so situated as to allow motion between two opposing surfaces. Buck, McDonald and Ghormley[1] showed that "adventitious bursae" will form practically wherever connective tissue is subjected to excessive friction—but in this case no serosal or endothelial lining is present. In other words, it is a property of connective tissue to be able to undergo a myxomatous or mucoid degeneration. This is the kind of reaction noted in ganglia, in Baker's cysts, in cysts of the semilunar cartilages and in the ad-

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Presented before the Section on Orthopedics at the 86th Annual Session of the California Medical Association, Los Angeles, April 28 to May 1, 1957.

ventitious bursa of bunions, whether or not a synovial or endothelial lining is present.

The terms used in the literature on this entity are quite confusing. Baker's cysts are often called semimembranosus bursitis, for example. A number of observers have described these cystic degenerations in many and varied locations, especially around the knee and hip, as an important anatomical discovery of new bursae in the area described. These conditions would be more simply and accurately described as *cystic* or *mucoid* or *myxomatous* degeneration of whatever the anatomical structure involved. The terms *bursitis* merely confuses the issue, even though a bursa may be involved, for there is no significant amount of *itis* or inflammatory reaction. A physician who would still like to use the word bursitis somewhere in the diagnosis when a bursa of some significant size is really involved, might use the term *cystic bursitis* or *bursitis with cyst formation.*

Calcareous Deposits in Ligaments and Tendons

The word *bursitis* seems to conjure a vision of agony from an acute inflammatory reaction somewhere around the shoulder. This idea is so deeply ingrained that it appears almost impossible to overcome the habit of labeling calcareous deposits in ligaments and tendons—if they are painful and affect the shoulder—as *bursitis.* Needling or aspirating calcareous deposits is even put under the heading of Bursae in the latest fee schedules, but at least it is not confined completely to the shoulder. These calcareous deposits are still commonly spoken of as bursitis wherever they may occur, although there may not be a bursa in the near vicinity, or perhaps only a small synovial sac scarcely worthy of the name.

The clinical entity that produces the painful symptoms is the nonspecific inflammatory reaction that occurs around the calcified deposit. The pathologic change is not in the bursa, but in a ligament or tendon. No textbook or recent medical writing appears to question this fact, and yet in stating the diagnosis the term *bursitis* often is used. The bursal sac can become secondarily inflamed, but this usually happens well along in the course of the reaction, most commonly of course after direct rupture of calcified material into the bursa. But the bursa itself does not have to be inflamed in order to produce the painful symptoms. Tendons and ligaments are sensitive to pressure. They have been shown to have innervation from small nonmyelinated nerve fibers, with the usual poor localization of pain and generalized radiation. If one pinches his own biceps or Achilles' tendon, he will find that he can stand the pressure on the fold of skin lying directly over it much better than the pressure on the tendon. It is not difficult to believe, then, that the chemical furuncle with its pressure phenomena within the tendon or ligament can cause excruciating pain.

To illustrate the point, take the case of a man in his mid-sixties who, when first examined, was prostrated—almost in shock—from pain,with a reddened swollen area nine inches or more in diameter, over the medial aspect of the knee. The appearance was that of severe infection, but the patient had no fever and the leukocyte content of the blood was only slightly above the upper limit of normal range. There was a large, ropy calcification of the medial collateral ligament of the knee in the center of the inflamed area. Obviously, labeling such a condition "bursitis" or calling it by an eponym such as Pellegrini-Stieda disease, does no service to precise description.

Almost any medical practitioner who has a large office practice will see many patients with this nonspecific inflammatory reaction each year and probably will take interest in the many and various places in the human frame that it will be observed. In sightly more than eight years I have found calcified deposits with inflammatory reactions in the following locations: Rotator cuff of the shoulder, supraspinatus tendon, acromioclavicular ligament, common extensor tendon at the epicondyle, flexor carpi ulnaris tendon at the pisiform, gluteus maximus and gluteus medius tendon at the trochanter, tendons of the short external rotators of the hip at the trochanter, medial collateral ligament of the knee, the Achilles' tendon at the os calcis, plantar ligament at the os calcis. Other investigators have reported it in other locations such as the flexor profundus of the finger at the point of insertion and the flexor carpi radialis at the insertion, even in the interior longitudinal ligament of the cervical spine.

Calcification without inflammatory reactions are not concerned in the subject under discussion. They are not confused, clinically with bursitis. I have yet to see a patient walk in complaining, unprompted, that he has "a calcification."

The "Chronic Sprain"

The term *chronic sprain* is used in an attempt to cover adequately the most diverse and controversial lesion of ligaments and tendons—the lesion that needs to be described more accurately and distinguished from the entity of true bursitis. It is not a term I like or commonly use, as I will explain later, but it does cover some of the field that I wish to discuss.

The term embraces lesions in ligaments and tendons which have clinical features similar to those of reaction around calcified deposits but in which it is impossible to demonstrate a calcified mass. A variety of names, all rather indefinite, are used to describe such lesions; *supraspinatus syndrome, scapulocostal syndrome* and *epicondylitis* are typical of the all-embracive names covering a multitude of lesions of these areas, including the entity of chronic sprain that should be set apart.

Connective tissue, wherever found in the body, has been demonstrated to undergo degenerative changes throughout a lifetime. Connective tissue subjected to stress can undergo more rapid degenerative changes, with a relationship between the amount of stress and the reparative processes, dependent upon the blood supply to the part. Connective tissues appears to be subjected to the most stress and to have the least reparative vascularity at the point of attachment to bone. Hence it is at those sites that conditions are conducive to development of an inflammatory reaction from the products of degeneration. Products of degeneration, whether they calcify or not, can be irritating to the surrounding tissue and can undergo nonspecific inflammatory reactions. Key,[2] in 1949, described fatty acids in degenerative areas which may or may not go on to calcification.

I believe that, just as microtraumata to a joint throughout a lifetime of use can produce the changes of osteoarthritis, with no pain noted unless the rate of the changes accelerates, microtraumata to connective tissue, particularly in the heavy ligaments and tendons, can bring about disruption of the fibers without pain noted until the products of degeneration accumulate faster than the reparative processes can remove them. These painful lesions, then, can be caused in some instances, I believe, by no more than ordinary stresses and strains, but may occur as the result of a single acute episode or multiple lesser insults.

Almost all practicing physicians have observed patients with complaint of a fluctuating aching pain in the shoulder, or in the elbow, or in the hip, or in the knee, with radiation often noted, the aching becoming aggravated at night, usually never acute enough to be disabling and yet annoyingly persistent for weeks or months. There may or may not be history of a traumatic episode that seems to the patient or the physician to be related. Careful palpation at the point of pain establishes the area of involvement at either the origin or the insertion of a tendon or ligament. In x-ray films, usually at least three views of the area, no calcification or other abnormality is noted. For ultimate proof of this lesion—the lesion of chronic sprain—and to confirm its position in the tendon or ligament, a small quantity of a local anesthetic can be injected (usually along with hydrocortisone nowadays) into the fibrous trigger point covering a spot no bigger than one or two centimeters. If an almost miraculous temporary relief of the entire symptom complex follows, the diagnosis is virtually certain.

The lesion of chronic sprain can calcify. Occasionally, but not usually, the reaction even without calcification is as intense as that which occurs around a calcified deposit. The flare-up of reaction following the injection and the rupturing of the products of degeneration can be intense.

The most common error that could be of serious consequence with regard to chronic sprain is to confuse it or calcified deposit in a ligament or tendon surrounding the trochanteric area of the hip, with sciatic neuritis caused by a herniated intervertebral disk and nerve-root compression. Actually the two are fairly easy to distinguish. In the case of inflammatory reaction at the trochanter commonly called gluteal bursitis, local tenderness, close to but definitely not directly over the sciatic nerve, is noted if careful palpation is done. Often there is increasing aching on bedrest. Rarely does pain radiate below the knee, the radiation commonly following directly along the iliotibial tract. Neurological deficit is not demonstrable, save for occasional atrophy of disuse. And usually the patient will maintain that the origin of pain is in the hip and will point to the greater trochanter. Nerve root compression phenomena are easily distinguishable from those of chronic sprain if one but think of the possibility.

TERMINOLOGY

As has been noted, primary bursitis, of whatever variety, can be distinguished from the entities of cystic degeneration, calcareous deposits and chronic sprains. Cystic degeneration of connective tissue likewise can be distinguished as to pathologic changes and symptoms from primary bursitis, calcareous deposits and chronic sprains. The latter two entities on the other hand are closer akin. In both, the clinical manifestation is inflammatory reaction and in both there is evidence of fibrous tissue degeneration with the products of degeneration calcifying or not, depending upon conditions which are not well understood.

I find *inflammatory tendinitis* a useful term to describe these nonspecific inflammatory reactions in ligaments or tendons. To this term, the qualifying words *with calcification* or *without calcification* are added. The term as thus constructed is serviceable enough until the cause of the inflammatory reaction is discovered. As to the redundancy of coupling *inflammatory* with *itis*, it may be pleaded that the sometimes extremely severe reaction observed in some patients may warrant this little excess of description.

Many other terms have been used throughout the years, but I find none of them quite as useful or as specific as *inflammatory tendinitis.* A term that has been long in use is *calcareous tendinitis*, and it is a good one; but what can one call the similar lesion that simply has not calcified? Although inflammatory reactions also occur in ligaments, *ligamentitis* seems too much a tongue-twister. Eponyms such as *Pellegrini-Stieda disease* are always poor as descriptive terms. And epithets like *epicondylitis* or *tennis elbow* cover more than one entity. Surely physicians can do better than simply add *itis* to the name of an anatomical part for the diagnosis and let it go at that. And surely we have enough clinical acumen that we need not resort too much to the use of the inexact *syndrome* when stating a diagnosis; if we are dealing with biceps tendinitis or a calcareous deposit in the rotator cuff, how much better to say so, precisely, than to call almost any pain located under the acromion and deltoid "a supraspinatus syndrome."

With the term *inflammatory tendinitis* used in the manner suggested, a diagnosis can be accurately stated—for example: "Inflammatory tendinitis, supraspinatus tendon, left shoulder, with calcification"; or "inflammatory tendinitis, gluteus medius tendon, right hip, without calcification." If a bursa is obviously swollen and distended secondarily, as is frequently noted in the shoulder, then the diagnosis can also include "with subacromial bursitis." This puts the term *bursitis* where it belongs, as an accompanying symptom. A diagnosis of this type needs no further explanation. It gives an accurate description of the process involved even if the process is not entirely understood. The understanding is much more likely to come if the means of communication among observers are more precise.

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No. 1 Killer

It seems that a smart automobile manufacturer, taking the long view, would sell safety to the women who control 60 per cent of all personal expenditures and influence most car-buying decisions. Witness the popularity of books on how to keep from being a widow.

Marginal Peptic Ulcer in Elderly Patients

CLARENCE E. STAFFORD, *M.D.*, and DAVID B. HINSHAW, *M.D.*, Los Angeles

MARGINAL PEPTIC ULCERATION may follow gastric operation of any type and may appear in any age group. It tends to occur near gastrointestinal stomas, the most common site being on the jejunal side of a gastrojejunostomy. Marginal ulceration occurs most often in patients with duodenal ulcer who have been treated by gastrojejunostomy alone. The ulcer recurrence rate in such persons may be as high as 34 per cent in long-term follow-up studies.[9,12] Marginal ulcers also occur following gastric resection, but the incidence varies from 1 per cent to 5 per cent.[11,15] When marginal ulceration occurs after gastric resection it generally appears within five years of the operation, whereas if it occurs after gastrojejunostomy it may not develop until ten years or more after operation.[15] Although marginal ulcers are rare following resection for gastric ulcer they do occasionally occur. In recent years vagotomy combined with gastrojejunostomy or pyloroplasty has been widely employed for the treatment of duodenal ulcer and the marginal ulcer rate following this procedure appears to be approximately 8 per cent based on five to ten year follow-up periods.[7]

Marginal ulcers are frequently associated with severe complications which are frequently resistant to conservative management. Pain and bleeding are the outstanding clinical manifestations of recurrent ulceration. Bleeding, when it occurs, is frequently massive. Other serious complications such as perforation and gastrojejunocolic fistulas may develop.

During recent years increased emphasis has been placed on the surgical problems of elderly patients, and important among these is the problem of gastroduodenal and also marginal peptic ulceration. More and more frequently elderly patients are being seen with complicated peptic ulcer problems requiring surgical treatment. The marginal ulcer problem in the older population has not been given sufficient consideration due to the fact that peptic ulceration, in general, has been assumed to be a disease largely confined to younger and middle-aged persons. The purpose of this paper is to present an analysis of a series of patients in the older age groups with marginal ulcer problems.

• Marginal peptic ulceration occurs with sufficient frequency in elderly patients to constitute a real problem. A study was made of 22 patients more than 65 years of age in whom such ulcers developed.

Marginal ulcers in elderly patients are frequently associated with dangerous complications such as massive hemorrhage or perforation.

Advancing age does not necessarily reduce the tendency to marginal ulcer formation.

Such operative procedures as gastroenterostomy without vagotomy, and minimal gastric resection, do not afford adequate protection from marginal ulceration in elderly patients.

When marginal ulcers occur in elderly patients, adequate gastric resection (70 to 75 per cent) or vagotomy in combination with resection is usually necessary.

ANALYSIS OF STATISTICAL MATERIAL

A study was made of 22 patients 65 years of age or over who were treated for marginal ulcers at the White Memorial and Los Angeles County General Hospitals from 1947 to 1957. In 19 cases the ulcers were gastrojejunal, in three gastroduodenal. The gastroduodenal ulcers followed pyloroplasty and vagotomy in two patients and Billroth I gastric resection in one patient. The three cases of marginal ulcer following gastroduodenal anastomosis were not included in the analysis.

Age

In the group of 19 patients with gastrojejunal ulcer the age range was from 65 to 80 years. There were six cases in the age group of 65 to 69 years and 13 cases in the age group of 70 years or over. According to Kiefer and McKell,[8] the first symptoms of peptic ulceration may appear in patients who are 70 years of age or more. In the present series there was one case in which initial ulcer symptoms began at the age of 72 years, and in six cases the operation preceding the gastrojejunal ulcer was performed in patients who were then over 65 years of age. Davey and O'Donnell[4] could find no evidence that older people are less liable to marginal ulceration. In a recent review of peptic ulcer disease in elderly patients at the Los Angeles County General Hospital,[14] it was found that there was a high incidence of lethal complications, and that advancing age afforded no safeguard against their occurrence.

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From the College of Medical Evangelists School of Medicine, and from the Surgical Services of the White Memorial Hospital and the Los Angeles County General Hospital.

Time Interval

It has been stated that the interval between partial gastrectomy and the development of marginal ulcer is shorter than that after gastroenterostomy. In the present series 16 patients had a marginal ulcer occurring after gastroenterostomy and three patients had ulceration following the Billroth II partial gastrectomy. There was no difference in the time interval following the two types of operation, but the group of cases is too small for statistical significance. The interval from operation to the appearance of marginal ulcer varied from one month to 32 years. In 11 cases the interval was less than 20 years, and in eight cases it was 20 years or more.

Symptoms and Complications

The complications of marginal ulcer are similar to those of peptic ulcer in general, except that the incidence of hemorrhage is greater. In nine cases in the present series the complaint that brought the patients to the hospital for treatment was hemorrhage, and in four of these cases it was severe enough to be classified as massive. Severe pain does not appear to be a common complaint in elderly patients with marginal ulcer except with perforation, which occurred in four cases. In one patient there was stomal obstruction due to an ulcer in the proximal loop of the jejunal anastomosis. It was severe enough to require surgical correction. One patient had a gastrojejunocolic fistula which occurred 17 years after gastrojejunostomy. The symptoms in this case were bloody diarrhea and pronounced loss of weight.

Diagnosis

The presence of marginal ulcer is readily suspected when a patient with a history of operation for peptic ulcer complains of abdominal pain or melena. To confirm the diagnosis is more difficult, for physical symptoms may be minimal and x-ray examination often is inconclusive. In more than half of the cases in the present series the results of gastrointestinal x-ray studies were negative.

Pathologic Features

The marginal ulcers were usually either at or in close proximity to the stoma on the jejunal side. In all cases the ulceration was within 2 cm. of the stoma. In a case reported by Thompson,[15] however, the ulcer was located in the jejunum 15 cm. from the stoma. Although ulcers in the jejunum usually occur in the efferent loop, the lesion was in the afferent loop in one case in the series. In four patients the ulcer was on the gastric side of the stoma. The largest ulcer in the series, about 6 cm. across, was in this location. Most of the ulcers were 1 to 2 cm. in diameter; the smallest was 0.5 cm. Most of the ulcers were single, and most were deep and penetrating, but a few were only superficial mucosal erosions.

Usually at operation an area of induration was noted at the stomal site and in some cases a definite ulcer crater could be palpated. In other cases, however, it was necessary to open into the stomal area to determine the presence of ulceration.

Treatment

Of the 19 patients treated for gastrojejunal ulcer, three were not operated upon. Two of them had mild pain which responded to conservative therapy; and the other, an 80-year-old woman with perforation (proven later at autopsy) entered the hospital in terminal condition and died within 24 hours. The rest of the patients received surgical treatment and four types of operative procedures were used.

Vagotomy. Vagotomy alone was performed on four patients. One patient had a mild recurrence of bleeding after an abdominal vagotomy for stomal ulcer following gastroenterostomy. Another patient died from persistent gastrointestinal hemorrhage due to a stomal ulcer occurring after pancreaticoduodenectomy; the intestinal reconstruction after this procedure was unfortunately arranged in such a way as to divert the alkaline juices from the gastrojejunal stoma. The hemorrhage was not relieved after thoracic vagotomy. The other two patients had satisfactory results.

Simple closure of perforation. This procedure was performed on three patients with acute perforation and in one instance it was combined with vagotomy and in another it was followed in two years by vagotomy.

Pyloroplasty and vagotomy. It was possible in three patients to resect the gastroenterostomy stoma with the ulcer, suture the gastric defect and reestablish continuity of the jejunum. Vagotomy with pyloroplasty was then added to control the basic ulcer disease. Satisfactory results were obtained in each of the cases.

Partial gastrectomy. There was no evidence of recurrence in six cases after subtotal gastrectomy (60 to 80 per cent of the stomach was removed). There was a recurrence after nine years in a patient who had been treated by hemigastrectomy and vagotomy. From observations made on this small series of patients it would appear that adequate gastric resection (70 per cent) could be expected to give the best results in treating stomal ulcers. However, many of the patients in the older age group are such poor surgical subjects that subtotal gastrectomy cannot always be performed without unwarranted risk. Consequently such procedures as vagotomy and pyloroplasty must sometimes be used even if there is a greater danger of recurrence present.

Mortality

The lethal complications in this series were perforation and massive hemorrhage, which caused three deaths in 19 cases. This mortality rate was about the same as that previously reported in complications of peptic ulcer in elderly patients.[14]

The dangers of hemorrhage and hemorrhagic shock are well recognized. Since perforation in elderly patients may not produce the severe pain and pronounced acute abdominal symptoms that it does in younger patients, treatment frequently is delayed.

REPORTS OF CASES

CASE 1. A 71-year-old white man was admitted to the hospital on December 12, 1953, with complaint of epigastric pain, hematemesis, tarry stools and weakness. Two years before, the patient had a perforated duodenal ulcer without previous ulcer history. The perforation was treated by simple closure and the postoperative course was satisfactory. About four months before the present admittance, a posterior gastroenterostomy was done because of pyloric obstruction.

Upon examination, poorly localized abdominal tenderness was noted. The blood pressure was 110/70 mm. of mercury, the pulse rate 100. The hemoglobin content of the blood was 7 gm. per 100 cc. A diagnosis of bleeding gastrojejunal ulcer was made and operation was performed on December 23, 1953. A 1.5 cm. ulcer was found in the distal loop of the jejunum 1 cm. from the gastroenterostomy stoma. Gastrotomy was performed to identify the lesion and a vagotomy done for definitive treatment. The patient made an excellent postoperative recovery.

Comment. In this case the first symptoms of duodenal ulcer occurred after the age of 65 years. Also to be noted is that gastroenterostomy without vagotomy at this age as well as in younger patients is not adequate to prevent the occurrence of marginal ulcer.

* * *

CASE 2. An 80-year-old white woman complained of epigastric pain for five hours before entry into the hospital on March 4, 1957. She gave a history of previous attacks of abdominal pain for 14 years. In 1948 cholecystectomy was performed and also an anterior gastroenterostomy because of duodenal scarring.

Upon examination tenderness in the mid-abdomen and hypoactive peristalsis were noted. A previous gastrointestinal x-ray taken in 1950 showed a deformed duodenal bulb and a partially obstructed gastroenterostomy, but no ulcer crater was seen at the stoma.

Shortly after entry into the hospital the patient went into shock and did not respond to supportive measures. She died within 24 hours. At autopsy a 2 cm. perforated jejunal ulcer was found just distal to the gastroenterostomy stoma.

Comment. It is possible to have perforation of a duodenal or gastrojejunal ulcer in any age group. Although uncommon, such perforations may occur in elderly women as well as men. The preoperative diagnosis was difficult to make in this case because of the lack of characteristic physical signs, which is frequently the case in elderly patients. The diagnosis of perforated peptic ulcer in the older age group is often missed, which is a factor in the high mortality rate.

* * *

CASE 3. A 67-year-old white man entered the hospital on May 18, 1955, with complaint of bloody diarrhea for two months and of a 16-pound decrease in weight in one year. He gave a history of perforated peptic ulcer in 1928 and of gastroenterostomy in 1938, but the patient did not know the reason for the operation.

No abnormalities were noted upon physical examination. A roentgenographic study showed a gastrocolic fistula near the gastroenterostomy stoma.

At operation the gastrojejunostomy stoma was resected, the fistula was closed and vagotomy with pyloroplasty was performed for definitive treatment. The operative procedure was well tolerated, and the patient made a satisfactory recovery.

Comment. Operation for gastrojejunocolic fistula in elderly patients entails a high mortality risk, and staged operations are often necessary. The use of vagotomy with pyloroplasty, an operation of lesser magnitude than gastric resection, gave good short-term results in this case, but a longer follow-up period is necessary to evaluate the procedure.

* * *

CASE 4. A 71-year-old white man entered the hospital on December 4, 1956, with a history of peptic ulcer treated 14 years previously by gastroenterostomy. Nine years previously he had had abdominal pain, vomiting and melena, and x-ray examination at that time showed an ulcer crater 1 cm. in diameter at the gastroenterostomy stoma. The patient was successfully treated by hemigastrectomy and vagotomy.

The present hospital entry was for small bowel obstruction, which at operation was found to be caused by old postoperative adhesions. Upon examination of the previously made gastrojejunal anastomosis, a 2 cm. ulcer crater was observed on the posterior wall of the jejunum adjacent to the stoma. No surgical treatment was attempted at the time because of the poor condition of the patient. Conservative therapy, however, gave the patient complete relief.

Comment. This recurrence of peptic ulceration at the age of 71 years even after hemigastrectomy and vagotomy again emphasizes the persistent nature of peptic ulcer disease in many elderly patients.

DISCUSSION

Interest in the study of elderly patients with marginal ulcer was stimulated by the frequent recommendation in medical literature and current textbooks on surgery, of the use of gastroenterostomy alone in the treatment of aging patients with duodenal ulcers.[1,2,5,6,10] It has been thought to be a relatively safe and effective procedure in this age group, particularly when used for stenosing, obstructing lesions. Our hospital records did not show any patients over 65 years of age with marginal ulcers until the past ten years. The present series of cases accumulated during the past ten years would tend to suggest that marginal ulceration is occurring or is being noted more frequently than before and that increasing age does not offer any protection against the occurrence of a marginal ulcer or any of its complications. It is not generally recognized that the occurrence of peptic ulcer, in general, in patients over 60 years of age is nearly the same as it is in younger age groups. Although it has been shown that there is some decrease in gastric acidity in older patients, one might well postulate that decreased local tissue resistance to peptic ulceration might be present in the older aged groups. It should be emphasized that six patients in this series had gastroenterostomy alone after the age of 65 years and that marginal ulcers subsequently developed.

The severe and often lethal complications of marginal ulceration, such as massive hemorrhage or perforation, present special problems in diagnosis and treatment in older patients. Such complications are not well tolerated by them and a high mortality rate may result. Likewise emergency surgical operation is poorly tolerated by older people, and many times inadequate operative procedures are done presumably because of the poor-risk factor. It is known, however, that major operative procedures such as gastric resection are well tolerated by aged patients if they are done under elective circumstances.[4]

The prevalent belief that marginal ulcers are rare in older patients has encouraged the continued use of this inadequate operation. It would appear that peptic ulceration in elderly patients should receive prompt surgical attention if conservative management is not quickly successful. Major operative procedures such as subtotal gastric resection (70 per cent) and vagotomy with pyloroplasty or gastrojejunostomy may be performed on older patients with a low mortality rate if they are done on an elective basis.

Peptic ulceration which occurs near an anastomotic line between the stomach and the small intestine, whether it be duodenum or jejunum, may also be referred to as "marginal."[15] The group of three patients in this series with marginal ulceration (occurring after vagotomy and pyloroplasty in two cases and after Billroth I type gastric resection in one case) is of course too small for any credible evaluation. However, inasmuch as these two procedures have been commonly employed during recent years in the treatment of duodenal ulcers, one would anticipate that an increasing number of marginal ulcers of this type will be seen. It is probable that the recurrent ulceration after vagotomy and pyloroplasty was the result of inadequate vagotomy, although this was not actually demonstrated in these two patients. It appears that the marginal ulcer rate following Billroth I end-to-end type gastric resection for duodenal ulcer may be excessive. The treatment of a marginal ulcer, once it has occurred, in an elderly patient is essentially the same as it would be for a patient in any other age group. When a marginal ulcer occurs after gastroenterostomy alone, the procedure of choice is resection of the anastomotic area, followed by adequate (70 to 75 per cent) gastric resection. If the marginal ulcer appears following gastric resection, vagotomy is often sufficient. If the resection was inadequate in amount, however, a re-resection may also be necessary. In certain especially poor-risk patients it may be necessary to use procedures of lesser magnitude than subtotal gastrectomy, recognizing that the chance of recurrence is present.

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Cancer Booklets for Your Patient

The Cancer Commission and the California Division of the American Cancer Society wish to remind physicians of booklets and leaflets on cancer which are available without cost for distribution to patients. The busy physician will find these educational materials helpful to supplement his advice to patients. The following are recommended:

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Employment of Persons with Epilepsy and Heart Disease

LLOYD T. LORBEER, *M.D.*, and CHARLES I. BARRON, *M.D.*, Burbank

• Among persons who are often considered handicapped so far as employability is concerned are two groups deserving of special attention—persons with heart disease because of the ever-increasing number of them, and persons with epilepsy because of the extreme difficulty they have had in getting suitable jobs.

A considerable number of persons with cardiac disease and a lesser number with epilepsy have been employed by the California Division of Lockheed Aircraft Corporation during the past ten years. It has been the experience there that the employment of such persons, once they are placed in jobs compatible with their physical limitations, has not resulted in unduly increasing the company's liability or labor cost and has not created operational problems of major proportions or jeopardized anyone's safety.

Considerable research and effort are being expended by governmental and other agencies and associations to further enhance the safe placement of such persons. It is believed that these efforts, if coupled with realistic interpretation of the Workmen's Compensation Act in this regard, will bring about more liberal and widespread acceptance of persons with heart disease and epilepsy by industry.

GREAT EFFORTS have been made by many persons and agencies during recent years to alert industry to the employment potentials of physically handicapped persons. Among the so-called handicapped persons are two groups that deserve special attention, the patients with heart disease because of their ever-increasing numbers and epileptic persons because of the extreme difficulty they have had in obtaining employment in the past.

Lockheed Aircraft Corporation has had considerable experience in the employment of both groups and since the medical department is intimate with the problems, we welcome this opportunity to discuss some of our experiences and observations and to describe our procedures and philosophy relevant to the medical aspects of placement of physically substandard employees.

We have been most fortunate in our association with a company noted for its humanitarian and progressive employment policy. This policy, as applied to persons with heart disease, was stated thus by one of our corporate officers in a publication entitled *These Hands Are Able:* "Industry today is hiring more and more handicapped workers. Many are cardiacs. Employers who know the facts about persons with heart disease, who apply proper placement, are making intelligent use of this available work force. At our company, cardiacs have proved capable and efficient. Placed in a job within their capacity, they create no undue liability or safety risk."

This philosophy is incorporated in company directives, which state in substance that it shall be the company's policy to employ physically handicapped persons and permit employees recovering from disabilities to return to work when to do so does not (1) jeopardize either their own safety and well-being or that of their co-workers; (2) unduly increase the company's liability or labor costs; or (3) create operational problems of major proportions.

These principles were translated into workable realities under the capable and sympathetic directorship of the late Dr. Fenn E. Poole. How well he accomplished his job is evidenced in the company's medical rejection and cancellation rate, which is among the lowest in industry. Less than 2 per cent of all applicants technically qualified for available positions are disqualified because of medical evaluation.

Our medical evaluation and placement system operates on the basic philosophy of maximum utilization and minimum wastage of manpower. We feel that even the limited or physically substandard worker, regardless of his handicap, once properly matched to a job ceases to be handicapped for that job and can perform as efficiently and safely as the average worker. This program of selective placement has not, during our association with Lockheed, resulted in increased compensation costs, increased risk to the company or an increased accident rate.

The preemployment or, more descriptively, placement examination is the means most commonly used to evaluate the physical capabilities and/or limitations of the employee and also serves as a baseline and detailed record of his health inventory at the

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From the Medical Department, Lockheed Aircraft Corporation, Burbank.

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time of hire. The medical history is, or should be, the most important phase of the entire examination procedure. At least 75 per cent of all existing disease can be suspected on the basis of symptomatology or information volunteered by the applicant.

Refinements in the placement examination should be directed primarily to eliciting a more accurate and detailed history. This does not necessarily imply the addition of dozens of complex questions disguised to trap the applicant into an admission. Rather it indicates the necessity of educating him in the realization that such information is needed to protect his health and ensure his safe placement.

We use an examination form containing fifty to sixty questions with additional space for recording data from a series of four physical examinations and the physicians' remarks. The examination form serves as a jacket for x-ray films, laboratory reports and pertinent medical correspondence.

A routine examination includes examination of the applicant's vision, using an American Optical Company Sightscreener, urinalysis and stero 4 by 5 inch x-ray films of the chest. Audiograms are made on all employees and additional laboratory studies are ordered in the cases of applicants for certain kinds of jobs—such as painting and de-greasing. Other studies such as electrocardiograms, skeletal roentgenography and blood chemistry determinations, are performed only when indicated on the basis of physical findings or significant history.

CLASSIFICATION OF LIMITATION

The results of the examination and the physician's recommendations must be transmitted in a simple and easily interpretable form to the employment interviewer and eventually to the employee's supervision to make sure any restrictions are complied with. For this purpose a classification system, using six major categories, was developed. It expresses the physical activity, condition or environment to which the employee must not be exposed, rather than classifying him on the basis of positive qualifications for a single job. Since about 75 per cent of our handicapped personnel require limitation with regard to only a single function, this method has proved very effective. We find our system affords flexibility in intradepartmental utilization of the worker and facilitates interdepartmental transfer.

Class I. *No hazardous machinery.* Employees having serious visual defects, diabetes, epilepsy, high blood pressure or heart disease may be placed in this category.

An employee limited to Class I is not permitted to operate hazardous power-driven machinery at any time. *Hazardous* power-driven machines include: Saws, routers, lathes, shapers, mills, grinders, drill presses, jig borers, drop hammers, punch presses, shears, radial drills, and others of the kind.

Employees limited to Class I are forbidden to use any of the above machines. In addition they are not permitted to operate a commercial vehicle such as a highway truck, or an in-plant truck such as a goose, tug or tractor, nor an overhead crane if cab-controlled. *Nonhazardous* machines which those limited to Class I may operate, if proficient, include rivet guns, nut runners, hand-drill motors, burring tools and others.

Class II. *No heavy lifting.* Employees with heart disease, back or joint trouble, improperly supported hernias or high blood pressure may be placed in Class II.

Men limited to Class II are not permitted to lift more than 25 pounds at any time. Women limited to Class II are forbidden to lift more than 10 pounds and should not be required to do constant lifting.

(Women employees without medical limitations are forbidden to lift more than 25 pounds under any condition. No woman employee shall be requested or permitted to carry any object weighing 10 pounds or more up or down any stairway or series of stairways that rise more than 5 feet from its base.)

Pushing or pulling weights requiring draw bar force in excess of 50 pounds is prohibited for male employees with Class II limitation. Female employees with Class II limitation are restricted to draw bar force of 25 pounds.

Class III. *Ground level work.* Employees with high blood pressure, diabetes, epilepsy and heart trouble, who are susceptible to bouts of dizziness or fainting spells may be included in this class. In addition, those having a deformity or disease of the spine or lower extremities may require this limitation.

An employee limited to Class III is not permitted to work on ladders, scaffolding, airplane wings or temporary jigs or in any other unprotected elevation.

Second and third floors of permanent, protected jigs and buildings, and the lower three steps of a five-step ladder are not considered hazardous for Class III limitation. Walking up and down stairs to and from such places of work is not a violation of the limitation.

Movable steps, ramps or raised platforms designed to facilitate working in permanent jigs and fixtures, such as those found on the assembly lines are not considered hazardous for Class III limitation.

Class IV. *Avoid contact with or exposure to specified agent.* Employees suffering from chronic sinus trouble, bronchitis, asthma and skin allergies may require this limitation.

An employee limited under Class IV must be placed where he will not come into contact with the specific agent or agents designated by the medical department. Irritants are generally chemicals, fumes, dusts or other agents that may be inhaled or come into direct contact with various portions of the body.

Allergic responses to these irritants vary between persons and sometimes occur without prolonged exposure or contact. The presence of the irritant in the air may be sufficient to produce a reaction.

Class V. *No extensive walking or standing.* Employees suffering from back disorders, lower extremity defects and varicose veins may require this limitation.

An employee limited to Class V is not permitted to walk or stand more than 50 per cent of the working shift. Sedentary bench or desk work is best for employees limited to Class V. Work permitting alternate sitting and standing is permissible and frequently desirable.

Class VI. *Miscellaneous.* Limitation to Class VI indicates the presence of a physical condition which must be shown special consideration. Employees with ear disease, nervous disorders, chronic back distress, bursitis and allied conditions may require this limitation.

All conditions which require limitation and are not included in the first five categories are placed in this class. When this class is used, the specific nature of the limitation is stated.

For example: An employee who should not be exposed to noise would be restricted to Class VI, "Not to work in an area where noise levels are above 95 decibels"—drop-hammer operator, riveter, aircraft mechanic. Or a woman with a severe strain of the elbow might be limited as follows: Class VI, "Not permitted to use hand tools requiring squeezing."

All medical information concerning the employee is considered privileged and confidential, and we forward only the numerical classification of limitations to the employee's department. To facilitate compliance and enforcement of the limitations, it was decided to display the limit by number on the employee's badge. Contrary to the fears and expectations of some, open identification of our physically substandard employees did not arouse a storm of complaints; a few employees asked that it be removed, but it has been generally accepted. The on-the-job supervisors of handicapped workers have found it fairly simple to comply with limitations when they are constantly in evidence, and safety engineers are able with a minimum effort to ascertain that a worker is not placed in a job proscribed for him.

Job evaluation is the second major component in the process of selective placement, as it defines the physical requirements for each job as well as the potential risk or hazard involved. From the medical standpoint, an ideal job evaluation is one that defines exact energy requirements as well as the type and degree of body movements and environmental exposure. However, since few routine physical examinations are designed to measure energy potentials, less refined procedures are and can be utilized. The job analysts in our wage and salary section outline the basic and overall technical and physical requirements of each job. The safety engineers, in their own studies, determine the physical risks and potential hazards associated with each operation. Finally, in making requisitions for workers, each department head must complete a detailed form in which he lists the degree and type of physical activity for the specific job and the environmental conditions to be encountered. This information is conveyed to the employment or placement interviewer, who in turn receives the results of the medical evaluation from the physician. It is, of course, the sole and inviolate responsibility of the medical department to determine the extent of body function or physical stress that is safe for the applicant. The placement expert can then extrapolate the medical evaluation in terms of fitness for any job.

We have made several recent studies of our employees who have heart disease or epilepsy. Out of a total work force of 31,000 we were able to identify 725—or 2.4 per cent—employees with cardiovascular disease. This indicates the number of known cases brought to the attention of the medical department. Of the 725, 301 had hypertension, 220 had some form of coronary artery disease, 40 had rheumatic heart disease, 13 had valvular cardiac disorders, 57 had heart disease of undetermined origin and the remainder other less prevalent forms of vascular disease.

WORKERS WITH HEART DISEASE

Dealing with workers with heart disease raises some interesting problems in employment. Heart disease is fairly prevalent among the working population and is the cause of 45 per cent of all adult deaths, the majority attributable to coronary artery disease. Other cardiac conditions, such as congenital defects, valvular disorders, rhythmic disturbances and hypertensive heart disease frequently cause abnormalities that can be detected during a cursory examination of the heart and blood pressure, but coronary artery disease is insidious in that pathological changes frequently occur before any abnormality is demonstrable.

The incidence of secondary occlusions in persons with coronary artery disease is high, and a damaged heart muscle implies a limited functional reserve. Lightheadedness and faintness may occur and under conditions of extreme physical exertion or emotional stress coronary artery spasm may be precipitated in diseased blood vessels. For these reasons an accurate diagnosis and physical evaluation is essential so that the applicant or employee may be placed in a job involving minimal risk to himself and protecting the employer against unjust and extensive liability.

At Lockheed, once cardiac disease has been diagnosed, work limitations are imposed in accordance with our placement standards. Usually, lifting weights of more than 25 pounds is forbidden, and the employee may work only at ground level. In more severe cases it is necessary to impose limitations ensuring minimal standing, no operation of hazardous machinery and occasionally no work entailing unusual mental stress.

All employees with limitations for heart disease are reevaluated six months after employment to ensure adequacy of placement. The frequency of additional examinations is determined on an individual basis. It would, of course, be ideal to precisely determine the energy potentials of each applicant with heart disease and to match this with individual job requirements. In a company such as Lockheed, with many hundreds of job classifications and numerous applicants with heart disease, it would be difficult to preform these precise measurements. Placement philosophy, therefore, entails conservative limitations for all workers with heart disease to ensure employment well within their reserve potentials.

It is occasionally necessary to reject applicants with severe cardiac conditions as being medically unsuited for work of any kind. Applicants who have had multiple coronary occlusions or who have active heart failure and persons who have severe congenital defects and are in imminent danger of heart failure are deemed unemployable. Employees in whom heart disease develops after they are hired are required to obtain maximum treatment before they are permitted to return to work. Careful cardiac evaluation is then instituted and every attempt made to return the employee to his former position or, if that is not compatible with his work restrictions, to retain him in an equivalent capacity.

It has been our experience that once a person with heart disease is placed in a suitable job, he ceases to be handicapped. The work efficiency and output, the accident rate, attendance and motivation of such persons are at least as good as for other employees. They pose essentially the same problems as any physically substandard employee with regard to loss of flexibility for job transfer.

Approximately 18 per cent of the employees at Lockheed are physically limited. Almost 20 per cent of those who are limited have cardiovascular disease. Many of them had the disease at the time of employment. This raises a frequently asked question: Is the employment of such persons of major importance in increasing sickness and life insurance rates, and what is their liability potential relative to workmen's compensation?

Of approxmately 40,000 men and women hired at Lockheed during the years 1951 and 1952, 19 died of coronary artery disease and two of other cardiac conditions. In only four cases was a history of heart disease elicited at the time of hiring, and in only three of these were objective physical findings present. Heart disease accounted for 48 per cent of deaths in the entire personnel, a figure which compared closely with mortality data of the general adult population in Los Angeles County. In view of this close approximation, we concluded that working stress at Lockheed had no special influence upon the death rate.

Ninety-five per cent of all employees who died of heart disease were more than 40 years of age and the median age was 53. The great majority of deaths occurred during nonworking hours. In no case was a serious question raised concerning compensability under the Workmen's Compensation Act. It has been our policy to have a visiting nurse talk with the immediate relatives as soon as possible after the death of an employee and to act as the company representative in all matters pertaining to the death, including those pertaining to pecuniary benefits. This practice tends to establish a good rapport with the family and is invaluable from a public relations standpoint. It tends to negate subsequent misinformation conveyed to relatives from many poorly informed sources.

MORE SENSITIVE EXAMINATION NEEDED

Since fewer than 20 per cent of employees who died of heart disease within two years after they began work were known by the company to have cardiac abnormality at the time they were hired, it is obvious that refinement of the examination procedures is needed. Routine electrocardiograms on all applicants are, we feel, not justified as a mass screening procedure. However, for applicants over 40 this test may be economically and medically feasible. A one-lead electrocardiogram, using the first lead recorded by a direct writing machine, has been used in some clinics as a rapid screening procedure, although it is of doubtful value since some conditions (posterior coronary disease) are not manifested in Lead 1.

Within the last several years additional tests have been advocated for diagnostic and prognostic purposes. Of these, the Gofman test or atherogenic index determination, the blood cholesterol determination and the microchylom index or dark field test of Griffith have received considerable attention. We have explored the possibility of using these procedures but find them to be impracticable for routine screening purposes. Several of the tests are expensive, complex and time-consuming. It is doubtful that they contribute more, prognostically, than does a history of familial heart disease. A quick-acting, economical and simple screening test for coronary heart disease remains to be developed.

Considerable research has been carried out in an attempt to precisely evaluate persons with heart disease for employment. The United States Department of Public Health recently sponsored an extensive cardiac rehabilitation project which was conducted, in part, at Lockheed. One objective of the study was to accurately determine the energy requirements of different jobs and define the oxygen consumption per unit of body area for normal persons and persons with heart disease. This phase of the program was conducted entirely on Lockheed worker volunteers. The second phase consisted of a series of tests, including pulmonary compliance studies, determinations of chemical contents of the blood, treadmill tolerances, electrocardiograms and others, performed at a special laboratory in one of the largest hospitals in Los Angeles. On the basis of these studies, it was hoped to develop a physical fitness index by which a subject could be classified on the basis of his ability to perform muscular work. It was hoped that the physical fitness indices might be standardized within a normal range and that an abnormal index for persons with heart disease could be extrapolated in terms of the known energy requirements for various jobs.

Of more immediate importance has been the establishment of the Work Classification Unit of Cardiacs in Industry Committee of the Los Angeles County Heart Association. The staff consists of several cardiologists, a job analyst, a social worker and an administrator. Persons with heart disease in need of evaluation are referred to the Work Classification Unit, where complete studies are performed. These include medical and emotional evaluation, social history and job analysis. Upon completion of the studies, a conference is held between the physicians and their co-workers, and a decision is rendered as to the subject's ability to perform a given job. Through this means, a just, honest and scientific diagnosis is reached and realistic recommendations made concerning the work capabilities of persons with heart disease. At present the unit accepts only persons who meet the following requirements: They must wish to have an evaluation of their work potential, must be referred by an industrial physician, must have had a diagnosis of heart disease, must be employed and have an employment problem with regard to the cardiac abnormality. This service is offered without charge to the subject or the employer. It is an initial effort and, unfortunately, must be limited in scope of selection, although it is hoped to extend the program later to provide a greater degree of coverage.

COMPENSATION FACTORS

On the darker and more pessimistic side are recent interpretations of the Workmen's Compensation Act by the Industrial Accident Commission and the highest courts of California which threaten to retard the progressive employment practices of many companies—decisions which imply, in effect, that almost any disease or injury occurring while the employee is on company premises is compensable. It now appears that an injury received in a fall to the floor, regardless of the cause, may be compensable. A person with heart disease who loses his balance as a result of lightheadedness or vertigo, or one who falls as a result of a coronary seizure, can now incur a potentially compensable injury.

Heart disease is a progressive disorder entailing the possibility of unpredictable calamity—which must be recognized in any just compensation law. Much confusion exists concerning definition of such words as *disease* and *disability*, and clarification is needed. Compensation adjudication procedures must be corrected to fairly limit the liability now assumed almost entirely by the employer. Secondary injury laws have proved ineffective in practice and the Subsequent Injuries Fund in California, which is useful in some disorders, is of doubtful value in cases of heart disease. It has been aptly stated that current decisions by the courts and the Industrial Accident Commission have done more to hurt the cause of persons with heart disease, epilepsy and other chronic diseases than all the good accomplished by the arduous efforts of many fine organizations, companies and individuals. What is most distressing is the effect upon those far-sighted companies with the most liberal and progressive policies who are most vulnerable by virtue of continuing these policies in force.

In 1953 a special attempt was made at Lockheed to gather data on all known epileptics employed in the company and subsequently to evaluate their progress. One of the objectives of the study was to determine whether it was possible to remove all work limits after a number of years free of seizures. During a three-year period data was kept on 63 epileptic employees, 15 of whom were military veterans. The average age was 37 years. Only one-third of these employees admitted they knew at the time they were hired that they had epilepsy. In addition, five applicants who identified themselves as epileptics at the time of applying for jobs could not be employed because of medical limitations. Among the 63 who were employed, 14 had been with Lockheed more than ten years. The average duration of employment was 5.2 years. Seven of the 63 were females. The majority of subjects had grand mal epilepsy. Twenty-eight were under the regular care of a physician and taking medication. Thirty-six were employed in medium or upper income positions.

Twenty-two left the employment of the company during the period of the study. Seven voluntarily terminated employment, four were laid off during production cut-backs, and four were discharged by the company, two of them because seizures were not adequately controlled by medication. The remaining seven either transferred to other divisions or did not return from sick leave.

Applicants for employment are encouraged to reveal that they have epilepsy. We never arbitrarily reject epileptic persons for employment but attempt to place them in positions compatible with their physical limitations. This generally involves the application of limitations prohibiting these persons from operating power-driven machinery and/or driving vehicles and from working on unprotected overhead platforms. This, we feel, tends to minimize the possibility of serious injury in the event a seizure occurs without sufficient forewarning to permit the subject to sit down. Seizures of the grand mal or Jacksonian type, when they occur without foreknowledge, tend to have an adverse effect upon the morale of fellow workers and to cause work delays.

It is extremely difficult to diagnose epilepsy on the basis of the preplacement physical examination. In the majority of cases the medical department first becomes aware of the existence of epilepsy as the result of a spontaneous seizure occurring during employment or by information obtained from other sources. Occasionally a first attack of epilepsy will occur in a young adult after his employment, but in the majority of cases the employee deliberately falsifies his medical history.

Falsification of medical records at the time of original employment is cause for dismissal. Occasionally this prerogative has to be exercised by the company when applicants deliberately refuse to allow the medical department to evaluate their disorder and properly place them in a suitable job assignment.

In our experience, for the most part, epileptic employees under adequate medical control perform as effectively as the majority of other employees. We have found no unusual incidence of mental deterioration or reduced cerebral capacity. To the contrary, several important positions are being capably filled by epileptic persons. We have noted a tendency for the frequency of seizures to decrease with time in almost all types of epilepsy, with the possible exception of Jacksonian seizures. The latter are a most difficult problem, in that they are hard to control and are frequently precipitated by relatively minor trauma to the head.

There are a number of groups in the Southern California area who are active in the rehabilitation of epileptic persons. One such group, Epi-Hab, sponsors a workshop in Culver City and trains epileptic persons as skilled machine operators and technicians. Medical surveillance is provided at all times. Although seizures among the workers are not uncommon, there have been no injuries owing to the seizures despite the fact the subjects are operating potentially hazardous power-driven machinery.

Among the epileptic persons at Lockheed are engineers, fabricators, stock clerks and shipping clerks, electricians, assemblers, inspectors, painters, mechanics, stenographers, executives and maintenance men.

As with other employees who have medical limitations, the chief operational problem with regard to workers who have epilepsy is loss of flexibility in job transfer. Perhaps more important in employment consideration is the possibility of an employer's incurring excessive potential liability as the result of injuries that occur during seizures. As in the case of employees with heart disease, it appears that injuries caused by the worker's falling, regardless of the idiopathic nature of the seizure, are compensable under the Workmen's Compensation Act. Hence employers are extremely reluctant to hire epileptic persons. The solution once again lies in a more realistic understanding of the problem, especially as it pertains to the legal responsibility of the employer. The majority of epileptic persons should have no difficulty in getting jobs for which they have the necessary training and technical skill, provided their seizures are under adequate control and hiring them involves the employer in no major medical/legal problems.

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CASE REPORTS

Acute Barbiturate Intoxication

A Case with Extremely High Content in the Blood and Protracted Coma with Recovery

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THE WIDESPREAD USE of the barbituric acid derivatives has given rise to the very serious problem of acute barbiturate poisoning resulting from both accidental and deliberate overdosage. Robie[15] said that the suicidal deaths from barbiturate intoxication have reached astounding proportions, with a 375 per cent increase in New York City, a 670 per cent increase in Los Angeles, and a 1,300 per cent increase in Chicago over the past seven, three and eight years, respectively. We wish to report a case of severe prolonged coma with complications successfully treated with supportive and analeptic therapy. In this case the plasma phenobarbital level was 21.6 mg. per 100 cc., which is one of the highest levels, in a case in which the patient recovered, of which we could find record either in the literature or through communication[5,16] with two large centers where the artificial kidney is in use. Berman and co-workers[2] recently reported phenobarbital content of 25.6 mg. per 100 cc. in a patient treated successfully with hemodialysis.

REPORT OF A CASE

A 50-year-old white woman was admitted to hospital November 13, 1950, after having taken approximately 3.5 gm. of phenobarbital. The blood content of the drug was 11.2 mg. per 100 cc. on admittance. Within 12 hours it had dropped to 10.6 mg. per 100 cc. and by end of 36 hours it was 10.1 mg. per 100 cc. and the patient then responded to pain. She was treated at first with caffeine sodium benzoate, picrotoxin and Metrazol (pentylenetetrazol) intravenously. The following day she was given benzedrine, starting with 40 mg. intravenously, then 20 mg. every 30 minutes for nine hours. After nine hours analeptic drugs were discontinued. At the end of 72 hours, the patient was awake but had periods of confusion, and by the fifth day was completely lucid.

She was apparently well until June 24, 1955, when she took approximately 12 grams of phenobarbital. When she was taken to another hospital about eight and a half hours later, gastric lavage was carried out. The total quantity of stomach contents and washings was not measured, but the concentration of phenobarbital in a specimen of the material was 19.3 mg. per 100 cc.

The patient was seen in the emergency room of our hospital when transferred there approximately ten hours after ingestion of the drug. The blood pressure then was 100/60 mm. of mercury and the pulse rate 100. The pupils were constricted and did not react to light. The gag, corneal and deep tendon reflexes were absent. There were scattered ronchi throughout both lung fields. The patient received 3.25 mg. of caffeine sodium benzoate, one ampule (1.5 cc.) of Coramine® (nikethamide) and 50 mg. of amphetamine, without noticeable effect. An oral airway was inserted and suction was applied frequently. Oxygen by nasal catheter was begun and an indwelling urethral catheter was inserted. Because of falling blood pressure, administration of Levophed® (levarterenol bitartrate) was begun and the blood pressure then was maintained at satisfactory levels. During the first night, the patient received a total of 21 cc. of picrotoxin and 1.5 cc. of Coramine every half hour for a total of 12 doses without noticeable improvement. On the morning after admission, she received another 21 cc. of picrotoxin in a three-hour period without effect, and it was decided to discontinue the use of all analeptic drugs as the vital signs had remained quite stable on supportive therapy alone. The content of barbiturate in the blood approximately 24 hours after ingestion was 21.6 mg. per 100 cc. Shortly thereafter, edema of the tongue was noted and an endotracheal tube was inserted. On the second morning, the blood pressure remained stable, but respirations were only 11 per minute. The urinary output was satisfactory. The barbiturate content of the blood was then 17.4 mg. per 100 cc. Respirations were deep and regular and, although ronchi were heard over both lung fields, aeration appeared to be

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adequate. Administration of oxygen was discontinued but cyanosis developed within five minutes and it was resumed.

There was gradual increase in edema of the extremities, face and tongue. The use of an artificial kidney was considered but transporting the patient to it was deemed too hazardous. In view of the decrease in the barbiturate blood level and the patient's satisfactory condition, it was felt that conservative management was indicated. At 8 p.m., on June 26, respiration suddenly became very shallow and very slow. The patient was placed in a tank respirator and respirations were maintained at approximately 16 per minute. Tidal air flow was measured frequently by the vitalometer and arterial oxygenation by the ear oximeter. These instruments indicated the effectiveness of the respirator and oxygen therapy. By noon on June 27 the patient had a rectal temperature of 103°F. and frequent suction by way of the endotracheal tube was necessary. Oxygen and Levophed were administered continuously. On June 28 transient knee jerks were present bilaterally. The intercostal muscles began to resume functioning to aid in respiration and the patient was removed from the respirator. The blood level of barbiturate at this time was 15.3 mg. per 100 cc. At about noon on June 28 it was noted that there was decreased excursion of the right lung. Atelectasis was suspected and x-ray examination confirmed the suspicion.

The patient was examined by the chief of thoracic surgery and the chief of anesthesiology, who felt that meticulous tracheal toilet now would suffice although they stressed the possibility of an early need for tracheotomy and bronchoscopy. Replaced in the respirator, the patient improved somewhat, but as the respiratory exchange, measured by the vitalometer, was better when she was out of the respirator, she was removed again. Levophed was discontinued, as the blood pressure had stabilized within normal limits.

Inasmuch as the use of the artificial kidney would require transportation of the patient to another hospital, which appeared unwise, peritoneal dialysis was planned for the morning of June 29. At approximately 7 o'clock that morning, however, the patient had a pronounced decrease in ventilatory excursion and cyanosis, requiring her return to the respirator. No air exchange through the endotracheal tube was detected. Tracheotomy was performed, with prompt return of good respiration, aeration of the right chest and improvement of color. Upon examination the endotracheal tube was seen to have become completely blocked with thick, inspissated mucus. This blockage occurred in spite of frequent suctioning and cleansing of the tube while in place. Respiratory exchange was still below normal, and oxygenation, as measured by the oximeter, was also diminished. There was minimal aeration of the left lung. Bronchoscopy was performed and much thick mucoid material was removed from the left bronchus.

Thereafter the patient had no respiratory difficulty. The barbiturate content of the blood was 10.9 mg. per 100 cc. on June 29, and the next day knee jerks and the triceps reflex returned on the right side. On July 1 a gastric tube was passed and the patient was fed through it. On a high protein formula, diarrhea developed, but it improved when the diet was changed to skim milk and broth. By July 2 the patient had biceps reflexes bilaterally and the barbiturate level was 3.7 mg. per 100 cc. of blood. By 1 p.m. that day she responded to painful stimuli. During the day, the patient was noted to have cardiac arrhythmia; an electrocardiogram showed atrial premature beats with aberrant conduction, and there were some nonconducted beats. No treatment was given for the arrhythmia, and within 24 hours it improved. On July 3 the tracheotomy tube was taped and the patient was able to talk. She remained groggy and had occasional periods of confusion until July 6, which was 13 days after ingestion of the barbiturate. At that time it was felt she had completely recovered from the effects of the barbiturate and the drugs given therapeutically. This was 13 days after initial intoxication. The patient was then referred to the Neuropsychiatric Clinic where she was followed on an outpatient basis.

DISCUSSION

The barbiturates are an important group of compounds which are mainly used for depressant action. New compounds are constantly being introduced, but in general, they can be divided into long, medium, short and ultra-short acting drugs. Although they may be so classified, the duration of action depends upon dosage, individual response and routes of administration, as well as the particular drug used.

Soon after absorption there is a relatively homogenous distribution throughout the body, but a slightly greater concentration in the liver and kidneys than elsewhere. What becomes of a particular barbiturate within the body evidently depends on its chemical structure, but one cannot predict from chemical structure exactly how the body will deal with the drug. In general, however, the thiobarbiturates and those with complex cyclic radicles, such as hexobarbital, are less stable and are almost completely destroyed in the liver. Barbiturates with short alkyl radicles, such as phenobarbital, are more likely to be stable and are excreted in the urine.[8]

The primary barbiturate effect is that of depression of the central nervous system. Two acceptable theories as to the means of its action are: (1) Decreased response of the cerebral cortex to sensory stimuli and (2) depression of the sleep center located in the diencephalon. The latter theory, which is the more widely accepted, must presuppose that the sleep center is more sensitive to the drug, for it has been shown that the drug is relatively uniformly distributed throughout the brain. Toxic effects are primarily exaggerations of the normal response.

With large doses, depression of respiration ensues, which is the usual cause of death.[6]

The length and depth of coma is better correlated with the content of drug in the blood than with the amount ingested. Sunshine and Mackett[18] divided a series of cases clinically into five groups of varying degrees of depression, noting blood level determinations as the patients passed from stage to stage.

The blood level and the type of drug determine the clinical state, and in general the longer-acting group requires higher blood levels to produce the varying levels of depression. In cases of phenobarbital poisoning, one can fairly well predict the clinical course by the blood barbiturate level. Levels of more than 10 mg. per 100 cc. of long-acting barbiturates, 7 mg. per 100 cc. of intermediate-acting, and 3 mg. per 100 cc. of short-acting barbiturates can cause death.[3] The presence of such amounts, however, does not constitute prima facie evidence of death from barbiturate poisoning.

Treatment of overdoses of barbiturate varies widely in various clinics. We consider nearly all forms of therapy at one time or another during the treatment of patients.

The two main schools of treatment are that of Koppanyi and Fazekas,[10] who advocate analeptic drugs in large doses, and that of Nilsson,[13] who expressed belief that supportive measures are sufficient. Certain basic nursing and medical procedures must be carried out in all cases. These include maintenance of a patent airway, maintenance of blood pressure and nutrition, prevention of trophic skin changes and prevention of infection. The time-honored analeptic and stimulatory drugs are usually thought of. (Use of them was begun in the case herein reported.) Many drugs have been tried, but the two most frequently relied on are pentylenetetrazol and picrotoxin.[10,14]

Some investigators believe that picrotoxin and pentylenetetrazol should be the mainstays of treatment because they act upon the entire central nervous system and physiologically reduce the depressing effect of the barbiturates.

Pentylenetetrazol is a central nervous system stimulant acting upon the medulla and spinal cord. Bailey, Goth and Lackey[1] studied the effect of the drug on dogs. Trying various combinations of doses of pentylenetetrazol and barbiturate after a known toxic level was established, they noted that pentylenetetrazol did not protect or resuscitate the animals. Nor did it maintain the blood pressure; in fact, depressed it. Picrotoxin also has an early stimulating effect on the central nervous system of subjects with barbiturate intoxication; but depression ensues, and death due to respiratory failure may follow.

Several factors make it difficult to evaluate the effectiveness of analeptic drugs in the treatment of barbiturate intoxication. These include: Status of renal function, visceral pathologic changes, gastric lavage (which may reduce the amount of barbiturate), the time interval between the overdose of barbiturate and the beginning of treatment, synergistic action of more than one depressant, and overstimulation with the analeptic drug.[7]

In 1955, Shaw[17] in Australia reported upon the use of a barbiturate antagonist, "Megimide," for lessening respiratory depression and shortening coma, but this drug was not available for use in the case herein reported.

Baker and Michael[12] reported very good results obtained with an electric stimulater in 14 of 15 patients who were in coma from overdose of barbiturates. They did not say, however, the amounts of barbiturates ingested or the amounts in the blood. The method has not been in use long enough to evaluate the results obtained. It does not increase the metabolism or excretion of the drug.

Had we had an artificial kidney available, much time and effort might have been saved in the case herein reported. Kyle[11] pointed out that the artificial kidney can remove the offending drug 20 to 30 times as rapidly as it is excreted in the urine. Berman and co-workers[2] expressed belief that hemodialysis should be used in two basic situations: When the amount of drug ingested or the blood barbiturate level is in the potentially fatal range; and when the underlying physical state is likely to increase the hazards of coma. In the case herein reported, it was not felt necessary at first to transfer the patient to a hospital that had an artificial kidney, since there was an apparent satisfactory drop in the blood level and on a previous occasion she had recovered rapidly despite a rather high blood level of barbiturate; and then, when it became apparent that she was not responding well, her condition was such that transfer was considered too hazardous.

Peritoneal dialysis was also considered, but was not feasible because by then the patient had to be kept in a tank respirator. Reporting on the use of peritoneal dialysis in three patients Henninger[9] noted an increase of between 1.5 and 2 gm. removed in four days by this method.

A conservative method of treatment advocated by Nilsson,[13] Clemmesen[4] and others embraces the following features: Aspiration of stomach contents, maintenance of a free airway, use of antibiotics, antishock therapy, making certain of diuresis, administration of vitamin C in prolonged coma because of increased vascular permeability, use of extra bed clothes if hypothermia occurs, use of cold packs if hyperthermia is a factor, daily routine nursing care around the clock.

Nilsson[13] expressed the opinion that stomach aspiration should be performed in only the first hour or two after ingestion of barbiturate and should not even be attempted after four hours. He and other investigators have warned against lavage because of the possibility of aspiration of fluid. Other observers, however, including Reed,[14] have expressed belief that gastric lavage should be performed regardless of the time interval, for a certain amount of irritation of the stomach is caused by large doses of barbiturates, which may cause pylorospasm and gastric retention of the drug for many hours. It is pertinent that in the present case when gastric lavage was carried out, eight and one-half hours after ingestion of phenobarbital, the amount of the drug in the fluid was 19.3 mg. per 100 cc.

Vital to any method of treatment is the maintenance of an adequate airway. Lack of strict and constant vigilance as to proper bronchial toilet and pulmonary ventilation is often the cause of an unfavorable outcome. Tracheotomy should be considered early if there are signs of difficulty with retained secretions. In the present case tracheotomy probably should have been done soon after the endotracheal tube was inserted. This procedure might have prevented the development of pulmonary atelectasis and the need for bronchoscopy.

Clemmesen in Denmark[4] observed that the addition of antishock therapy, continuous use of oxygen, centralization of treatment in one hospital, and abandonment of all stimulation caused a drop in the mortality rate in cases of barbiturate intoxication from 25.4 per cent to 3.7 per cent.

SUMMARY

A case of barbiturate intoxication with prolonged coma and high barbiturate blood level with survival is presented. Treatment was mainly supportive, with strict attention to the maintenance of vital functions. A brief presentation of the pharmacologic features of barbiturates and several methods of treatment are discussed.

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California
MEDICINE

For information on preparation of manuscript, see advertising page 2

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EDITORIAL

Physicians and Lawyers

On another page of this issue appears an article prepared jointly by the chairmen of liaison committees of the California Medical Association and the State Bar of California. This item outlines the agreement which has been reached by the respective committees of the two organizations on the single subject of expert medical witness for medical malpractice plaintiffs.

While some members of the medical profession—and doubtless many of the legal profession—may raise their eyebrows over the advent of such an agreement, there appears ample good reason why this step has been taken.

Over the years physicians and lawyers have met in the courts of the land. Where physicians appear as witnesses on opposite sides of a case and present testimony at variance with each other's, they may be pictured by attorneys, judges and jurors as something less than upright men pursuing the same scientific course. At times the entire medical profession is castigated as being composed of men who would take sides to the exclusion of their scientific training.

In many such suits physicians have found themselves badgered by opposing counsel, sometimes faced with the reading of sections taken out of context from medical books. Such situations have been embarrassing to the physician witness and derogatory to the whole profession of medicine, to say nothing of the effect on the course of justice.

The very appearance of these situations in our courts has caused many of the meditative minds in both professions to seek an avenue of approach to a problem which pits one professional group against another, to the benefit of neither, to the detriment of both and the disservice of equity. A baiting attorney, even though using his tactics simply as a technique, must leave the impression of a bully on at least some jurors and courtroom observers. A faltering physician, even though medically sound in his testimony, can easily create the impression that medicine has not progressed to a very high scientific level.

That some progress has been made in working for something better has become apparent in recent years. In several states and in numerous counties throughout the country medical-legal groups have sat down together for frank discussions of their joint problems and have come up with some of the answers.

The result of these joint sessions in many places has been the adoption of an interprofessional code of conduct. Such items as the conduct of both lawyer and physician while the latter is on a witness stand have been spelled out in some of these codes. The subpoenaing of physicians' records; the calling of physicians as expert but unwilling witnesses for purposes of picking their brains; the relationship of physician and attorney on both sides of a case—these and other details have been analyzed and reduced to rules of conduct which both professional groups understand and accept.

The adoption of these codes represents a healthy and progressive movement on the part of both groups. It is certain that much misunderstanding and hard feelings will be eliminated and the dignity of both enhanced by these agreements.

More recently there has come another indication of better and closer interprofessional cooperation. In one large state a program for the naming of physician experts to give impartial medical testimony in personal injury cases has been developed. These experts are chosen from panels by the judges and their main function is to give impartial testimony without any thought of bias for or against a plaintiff or defendant. While this process has not spread very wide to date, it is being carefully observed in many other areas. If it produces the results hoped for, the bickering between expert witnesses in highly contested cases may be eliminated; in fact, many cases may be settled before trial if the impartial medical testimony will not support the legal claims made.

The newest move in California comes as a follow-up of these earlier evidences of collaboration between the two professions. The maintenance of panels of experts for the use of plaintiffs' attorneys in professional liability cases should go a long way toward dispelling the impression which has been voiced by some lawyers and judges that a "conspiracy of silence" exists in the medical profession when a medical malpractice case comes to court. Where panels of medical experts are established to work under the guidance of both the medical and the bar associations, there would be little to sustain this sort of reasoning. The program has been agreed upon by both parties under a set of rules which will protect all parties against abuses and still make expert testimony available to the plaintiff.

Where large county medical societies are involved, it is expected that the county society will supervise the program through its own staff. In smaller counties, area panels will be developed to work with the cooperation of the district councilor of the California Medical Association. In either event, the medical societies will be advised on all cases and adequate administrative controls will be maintained. [Details are given in the article appearing on page 173 of this issue.]

While only a limited experience has been had in this program to date, it appears obvious that the plan will be put into effect statewide at the earliest possible date and that the medical and legal professions can take another step forward on the path to mutual respect and understanding. But above all, the public will be presented a service which could not be purchased for money but can be extended with good will by the two large professions involved. This is at once good citizenship and good public relations at its very best.

Editorial Comment . . .

Why a Tumor Registry?

THE QUESTION is often asked, "Why should a hospital have a tumor registry?" The administrator questions the cost and asks how such a charge can be justified in terms of service to all the patients cared for in the hospital. The staff member is concerned in what he receives in return for the time spent in obtaining follow-up information since the family physician, to whom the patient is returned for further care, resents the "specialist" periodically asking for information relative to the condition of the patient.

One answer might be that, cancer being a multiplicity of diseases, every method that may provide any information should be developed. There are those who state that the collection of such data for statistical analysis is time consuming and futile, that statistics never cured a case, that all the patients die sooner or later in spite of treatment and perhaps because of treatment. Others, the optimistic ones, say that cancer can be cured in 85 per cent of cases if treated early enough. Between these two groups are the careful scientific members of the profession who are interested in the results of their therapy not only at the time of discharge of the patient from the hospital but in the years that the patient lives. It is for this group that a cancer registry becomes a valuable tool in treatment and in teaching.

Few persons are endowed with "total recall" memory, and physicians are not especially favored. They, like others, are likely to remember their successes and forget their failures and particularly the details of the cases with the passage of time. Hence the need of accurate recording of the facts as they develop. Such a clinical record becomes quite bulky, and to review all such records for information as to age, sex, site, type, diagnosis and therapy (or reason for no therapy) is time-consuming.

A tumor registry is designed to expedite and make attractive such reviews. Pertinent information is abstracted and filed on all patients with cancer seen in the hospital departments. For the convenience of the specialists the abstracts may be filed according to site of lesion. The follow-up information is kept with the abstract and thus a running inventory is maintained. A yearly audit is easily prepared and the staff made aware of the cancer program of the hospital.

The obligation of sharing the knowledge gained through experience is traditional with the medical profession. The means of sharing such knowledge is the presentation of data before medical societies or specialist groups and by writing for the professional journals. The tumor registry provides the basic material for such writings. True, it will be necessary in certain cases to review some clinical records individually for specific details not recorded in the abstracts, but the identification of special cases has been made easier. Since the end results are *sine qua non* evaluating any information, complete follow-up data is essential.

Nothing has been said of the standardization of report forms and of the terms used. So long as the hospital is operating the registry as an individual program, standardization is of small consequence; but when the hospital becomes one of many participating in a central tumor registry, standardization becomes necessary to insure that all participants use the same terms to define or describe the same material.

Some persons may ask why a central tumor registry is necessary, particularly if all hospitals are maintaining a complete tumor registry? The answer is that relatively few hospitals record more than five hundred cases of cancer a year; most of them have about two hundred cases a year. These cases include all sites, including the skin. In some institutions malignant lesions of certain sites are seen rarely. It becomes necessary, then, that all such experiences be pooled in order that a better knowledge of these "rare" lesions may be gained and better diagnostic and therapeutic techniques developed. A central tumor registry would also provide means for evaluating the efficiency of therapeutic techniques by the statistical analysis of the effects upon the well-being of the patient and the length of survival, using the accepted techniques for a base.

As Dr. Harvey Cushing once said: "Records based on observation have an enduring value that transcends all our social philosophies; and the doer always does over again—always a little better, we would like to believe—what someone has done before and someone before *him*."

JAMES W. ELLIS, M.D.
Cancer Consultant to the California State Department of Public Health

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Important!

SCIENTIFIC MOTION PICTURES

Attention—All Members of the California Medical Association

AT THE 1958 annual meeting of the California Medical Association, to be held at the Ambassador Hotel, Los Angeles, April 27 through April 30, approximately 100 motion pictures on surgery and medicine will be shown on the program of the Motion Picture Division.

The educational and scientific value of motion pictures has been proven by the large attendance at the Motion Picture Section during our previous meetings.

If you would like to present a scientific motion picture film on this program, you must submit your application to the committee for approval not later than February 15, 1958.

Address all communications to: Arthur E. Smith, M.D., D.D.S., chairman, Motion Picture Division, California Medical Association, 1930 Wilshire Boulevard, Suite 511, Los Angeles 57, California.

California MEDICAL ASSOCIATION

NOTICES & REPORTS

Medical Expert Panels for Malpractice Cases

In relatively recent years there has been an appreciable increase of interest in attempts to foster better understanding and closer cooperation between the medical and legal profession.[*] It is the considered judgment of many that lack of understanding or cooperation arises most frequently in the exceptional cases wherein the respective roles of the lawyer, client-patient and doctor are not understood by one or more of these three participants. Regardless of the causes for the problems which have arisen, the California Medical Association and the State Bar of California simultaneously concluded to investigate and confer on the general subject and initially on the availability of impartial medical expert witnesses in alleged medical malpractice cases.

At its 1955 meeting the Conference of State Bar Delegates adopted Resolution No. 39 which provided for the study of the problem of obtaining evidence in malpractice cases. As a result of that resolution a committee was appointed to make that study.[†] That committee investigated the problems individually, conferred together and with representatives of C.M.A. In August 1956, the committee submitted its report, recommending that the Executive Committee of the Conference of State Bar Delegates or the Board of Governors appoint a committee to confer with a comparable committee to be appointed by the Council of the California Medical Association and if possible to formulate a plan to alleviate the misunderstandings and establish closer cooperation between the two professions. In March of 1957, the President of the State Bar, pursuant to authority of the Board of Governors, appointed a committee to confer with a committee appointed by the Council of C.M.A.[‡] After several conferences the joint liaison committees formulated a plan as follows:

1. *Purpose:*

A panel of physicians available for consultation with attorneys of the local or neighboring bar associations for pre-suit expert opinion and, where suit is instituted, for testimony as an expert witness.

Such panel to be used *only* for cases of alleged medical malpractice.

2. *Selection of Panels:*

On appointment basis by the medical societies within each territorial district with approval of panel by the board of directors of the applicable local county bar association.

3. *Disqualifications of Panel Members:*

If panel physician is treating or has ever treated or consulted upon the plaintiff patient; or if there is a relationship, business or otherwise, between panel and defendant physician.

4. *Make-up of Panels:*

   a. General practice.

   b. The following basic specialty areas of medical

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[*] For example, see Medical Testimony: Doctors and Lawyers Cooperate, by Audrey Barr, *Journal of the American Judicature Society,* Volume 41, Number 3, dated October 1957, page 78, and *Journal of the American Medical Association,* Volume 164, August 24, 1956, page 1931.

[†] Donald A. Odell, Sr., Los Angeles, chairman; R. Winfield Achor, Santa Rosa; Fitz-Gerald Ames, Sr., San Francisco; James W. Archer, San Diego; Scott L. Harrington, San Francisco; Thomas E. Heffernan, Corona Del Mar; Daniel J. Higgins, Auburn; Willard Lee Pope, Watsonville; John B. Rosson, Oakland; Alfred Thomas, Fresno; Will H. Winston, Long Beach. Liaison: John S. Frazer, Los Angeles; Edward W. Schramm, Santa Barbara.

[‡] *C.M.A. Committee:* Joseph F. Sadusk, Jr., M.D., Oakland, chairman; Donald A. Charnock, M.D., Los Angeles; Rees B. Rees, M.D., San Francisco; Donald E. Ross, M.D., Los Angeles; Francis E. West, M.D., San Diego.

State Bar Committee: Donald A. Odell, Los Angeles, chairman; James Archer, San Diego; John Finger, San Francisco; Dennis Hession, San Mateo; Elwood Murphey, Oakland.

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practice, and such additional areas of specialty practice as shall be determined within each district: (1) Medicine, (2) surgery, (3) obstetrics and gynecology, (4) pediatrics, (5) pathology, (6) radiology.

5. *Administration of Panel:*

By a designated officer of the local county bar association. Names on file.

6. *Method of Call of a Panel Member:*

By complainant's request in writing to a physician on a panel list as submitted by local bar association. The physician shall notify his county medical society and the local bar association in writing of the requested consultation, giving name of attorney, complainant and physician complained against.

7. *Education of Panel:*

By a series of lectures from a joint committee of local medical and bar associations; or by special statewide indoctrination committees.

8. *Reimbursement for Consultation or Testimony:*

For the consultation and examination, review of records, preparation of report, and testimony, the physician shall receive the reasonable value of his time in accordance with the prevailing fees in his community.

9. *Panel Physicians in Court:*

No reference shall be made in court to the panel or medical or bar associations' participation therein. Judges shall be requested to adopt a rule forbidding counsel (on each side) to mention status of witness in relation to panel.

10. *Availability of Panel Members to Defense:*

a. A panel physician who consults with or examines a complainant may not, without the consent of the complainant, be examined in a civil action as to any information acquired from the complainant which was necessary to enable the physician to prescribe or act for the complainant, except as provided below.

b. A complainant may secure additional examinations or consultations from the panel list, but only if the complainant agrees in writing with the preceding panelist consulted that the latter may be examined in any civil action based upon the complaints involved.

c. A complainant may secure an examination or consultation with a second member of the over-all panel without being required to waive the confidential nature of the first examination or consultation providing the initial panelist selected reports in writing to the administrative officer of the local county bar association that the complaint is not within his area of practice; or that a second examination or consultation is necessary or advisable for stated cause.

TERRITORIAL DISTRICTS

1. The district organizations for panels of experts on a regional basis shall be coextensive with the councilor districts of the California Medical Association, except that the third and fourth councilor districts (both in Los Angeles County) shall be combined to function as one district. Each district shall be asked through its California Medical Association councilor to supervise the establishment of a panel.

2. Lawyers shall use the panel within their own territorial district and not elsewhere and physicians on the panels shall be expected to respond to requests from within their own councilor district and not from elsewhere.

3. Inasmuch as bar associations do not extend beyond county lines, as do some of the rural medical societies, and inasmuch as there is more than one bar association in some counties, each county bar association shall be requested to set up the appropriate administrative machinery to administer the program within its geographical area on behalf of all attorneys in the county regardless of the bar association to which they belong, and to establish such liaison with other bar associations as each county may determine desirable; lawyers in counties where there is no bar association shall be given an opportunity to join with one adjacent county where there is a bar association for purposes of administration of the panels.

At their September 1957 meetings the Council of the California Medical Association and the Board of Governors of the State Bar of California accepted and approved this plan and subsequently appointed new committees charged with the responsibility of implementing and endeavoring to make effective the plan.* As a part of its resolution of approval, the Board of Governors further requested the committee of the State Bar to consider the necessary steps to procure by rule or statutory amendment implementation of Rule 9 (re reference in court to the panel) and Rule 10 (re availability of panel members to the defense).

The joint liaison committees met again on December 12, 1957. Also present and participating most helpfully in the deliberations were Edwin A. Heafey, Esq., president of the State Bar, Howard Hassard, Esq., counsel for C.M.A. and Rollen Waterson, executive secretary to the C.M.A. committee.

***C.M.A. Committee:* Francis E. West, M.D., chairman; Donald E. Ross, M.D.; C. J. Attwood, M.D., Oakland; Rees B. Rees, M.D.; Donald A Charnock, M.D.

State Bar Committee: James Archer, chairman; Frank S. Balthis, Los Angeles; Dennis Hession, John Finger, Elwood Murphey.

Subject to approval by the governing bodies of the two organizations, the joint liaison committees recommended that the President of C.M.A. and the President of the State Bar request that similar joint liaison committees be appointed by the councilor of each district of C.M.A. and the presidents of each county bar association to implement the plan on the local level. It is recommended that members of the local committees be urged to confer and work with the members of the state-wide liaison committees in order that there may be as much uniformity in the program as is practicable considering the special problems that may exist in certain areas. It is anticipated that designated personnel of C.M.A. will call upon C.M.A. district councilors and the appropriate members of the county bar committees to assist in initiating the program. It is further recommended that the executive secretaries of the county medical societies be charged with the responsibility for the administration of the plan in each area. The reason for this being that in most areas the medical societies maintain permanent offices and staffs. Conversely, comparatively few county bar associations are similarly established. Therefore, it was recommended that administration of the panel list should not be delegated to a secretary but should become the duty of one of the officers of the county bar associations.

The members of the panel will be fully indoctrinated as to their role, responsibilities and procedures. Members of the county bar associations' committees shall participate in the indoctrination lectures. More detailed information regarding the indoctrination will be made available in the near future in the form of an "Indoctrination Kit." Certain forms to assure proper controls and desired statistical information were recommended by the joint committees. They will be made available to each county medical society.

Certain specific "ground rules" are recommended by the joint committees, subject to approval of the two governing bodies. They are as follows:

1. Panel members are to be appointed by the county society, not selected from volunteers.

2. Only those panel appointees who have attended the indoctrination lectures are eligible to serve.

3. Present members of public service or malpractice committees of county societies are not eligible for service on the panel.

4. Panel appointments are for one year only; a new panel is appointed each year, but the same physicians are eligible year after year.

5. Panel members, as such, are available to complainants against doctors of medicine only.

6. In each county, the panel should be representative of the practice of medicine in that area as to specialties and general practitioners.

7. The financial arrangements between the complainant's attorney and the panel member are to be by agreement between them, although a fee scale may be established by the county medical society if it so desires. Fees are to be paid in advance unless otherwise agreed between the panel member and the attorney.

Individual county medical societies and county bar associations are free, of course, to modify this proposed plan to meet local conditions and attitudes; in fact, they are free to accept or to reject the entire concept of the proposed establishment of professional liability medical panels.

It was recommended by the joint liaison committees that Rule 9 of the proposal should be implemented by the Board of Bar Governors through the Committee on Administration of Justice. However, the committees proposed a rule as follows:

"No reference shall be made in any action or proceeding to the existence of a joint county medical-bar association panel of physician experts or to the participation or nonparticipation of any witness therein."

It was the consensus of the State Bar Committee that no action is required for the implementation of Rule 10 as the participation of the physicians is voluntary and if a lawyer does not desire to adhere to the program, he can be denied the use of the panel.

As this is a new and unique program, it will take some time and planning before it can be inaugurated in some areas and before it can be tested effectively. However, there has been a somewhat similar plan in operation for several years in Los Angeles County and the experiences there were very beneficial to the joint liaison committees and should be of benefit in other localities. It is the sincere hope of all interested in the plan that it succeed and tend substantially to alleviate some of the misunderstandings that seem to presently exist.

Francis E. West, M.D.
President-Elect of California Medical Association

James W. Archer
Chairman of State Bar Liaison Committee

CANCER BOOKLETS
for *Your Patient*

The Cancer Commission and the California Division of the American Cancer Society wish to remind physicians of booklets and leaflets on cancer which are available without cost for distribution to patients. The busy physician will find these educational materials helpful to supplement his advice to patients. The following are recommended:

GIVE YOUR DOCTOR A CHANCE . . . This booklet describes the general nature of cancer, stresses the importance of annual checkups, and explains how the family physician makes a cancer detection examination.

PERSONAL MEMO . . . This leaflet explains the importance of routine breast self-examination and illustrates how a woman can carry out this technique.

TO SMOKE OR NOT TO SMOKE . . . This booklet reviews the research studies on this subject and states the position of the American Cancer Society.

CANCER FACTS FOR MEN . . .

CANCER FACTS FOR WOMEN . . . These companion leaflets present basic information in concise fashion.

101 ANSWERS TO YOUR QUESTIONS ABOUT CANCER . . . A 20-page booklet answering the questions most frequently asked about cancer.

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Standards for Blood Bank Sponsorship By the California Medical Association*

1. Blood banks will operate on a nonprofit principle. A copy of the letter of exemption from the United States Bureau of Internal Revenue and the State Franchise Tax Board will be submitted. A letter will be submitted annually by the blood bank president or other responsible officer stating that the blood bank is complying with its nonprofit status. A letter will be submitted annually from the blood bank auditor stating that blood bank funds are not being used for purposes other than that for which the blood bank was formed and that during the past year there have been no substantive changes in the articles of incorporation or the by-laws of the blood bank, except as follows:

2. Blood banks will perform an acceptable community service. Adequate amounts of all types of blood will be supplied to all qualified medical facilities requesting service in the geographic area covered by the individual blood bank at minimum cost to the patient. The method by which this is accomplished is the responsibility of the individual blood bank as long as the basic effort for blood procurement follows the replacement principle.

3. Blood banks will fulfill basic technical standards as outlined by the National Institute of Health and/or the California State Department of Public Health.

4. Each blood bank will be sponsored by the county medical society where it is located. Evidence of such sponsorship will be submitted annually to the C.M.A.

5. The above information will be secured by the C.M.A. Committee on Blood Banks and will be submitted annually to the Council of the C.M.A.

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*Approved by the Council, January 11, 1958.

Stolen Child

(Bulletin from the San Francisco Police Department)

On Friday, December 20, 1957, the following described infant was stolen from 519 Fell Street in San Francisco:

Baby Caroline Elizabeth Horton, 11 weeks old, 11 pounds, 12 ounces, 23¼ inches long, curly thick black hair with deep cowlicks, real thick and long sideburns that partially obscure a small birthmark on right side of face, large brown eyes, light brown complexion.

This baby was born with six fingers on both hands and as these were amputated shortly after birth, the amputation marks are still visible on sides of both little fingers. The mark on the left little finger is a noticeable small dark spot and the mark on the right little finger is a small nub.

When the baby was stolen it was dressed in a white dress, yellow slip, diapers, yellow ruffled rubber panties, white shoes, yellow socks, yellow ribbon in hair, yellow sweater with pink flowers on side, yellow corduroy bonnet trimmed in white, yellow nylon blanket.

Anyone having any information on the above subject, please contact the General Work Detail of the San Francisco Police Department, SU. 1-2020, Extension 411.

In Memoriam

Bernstein, Theodore I. Died in Los Angeles, December 11, 1957, aged 48, of leukemia. Graduate of the University of Southern California School of Medicine, Los Angeles, 1938. Licensed in California in 1938. Doctor Bernstein was a member of the Santa Barbara County Medical Society.

◆

Donald, William Goodricke. Died in Berkeley, December 30, 1957, aged 68, of acute myocardial infarction, coronary sclerosis. Graduate of the University of California School of Medicine, Berkeley-San Francisco, 1923. Licensed in California in 1923. Doctor Donald was a member of the Alameda-Contra Costa Medical Association.

◆

Harrison, William H. Died December 10, 1957, aged 73, of heart disease. Graduate of the College of Physicians and Surgeons of San Francisco, 1907. Licensed in California in 1938. Doctor Harrison was a member of the San Francisco Medical Society.

◆

Harsha, William T., Jr. Died in Pasadena, November 28, 1957, aged 49. Graduate of Stritch School of Medicine of Loyola University, Chicago, Illinois, 1935. Licensed in California in 1944. Doctor Harsha was a member of the Los Angeles County Medical Association.

◆

Hartman, George W. Died in San Francisco, December 24, 1957, aged 78. Graduate of Johns Hopkins University School of Medicine, Baltimore, Maryland, 1908. Licensed in California in 1909. Doctor Hartman was a retired member of the San Francisco Medical Society and the California Medical Association, and an associate member of the American Medical Association.

◆

Kelley, Douglas M. Died in Berkeley, January 1, 1958, aged 45, of anoxia, cyanide poisoning. Graduate of the University of California School of Medicine, Berkeley-San Francisco, 1937. Licensed in California in 1937. Doctor Kelley was a member of the Alameda-Contra Costa Medical Association.

◆

Klemme, Roland M. Died in Salinas, November 21, 1957, aged 61. Graduate of Washington University School of Medicine, St. Louis, Missouri, 1921. Licensed in California in 1950. Doctor Klemme was a member of the Monterey County Medical Society.

◆

Nicholson, James W. Died in Porterville, December 4, 1957, aged 70, of metastatic carcinoma. Graduate of Vanderbilt University School of Medicine, Nashville, Tennessee, 1913. Licensed in California in 1913. Doctor Nicholson was a member of the Tulare County Medical Society.

◆

Oster, Edwin A. Died in Campbell, December 20, 1957, aged 34. Graduate of the University of Illinois College of Medicine, Chicago, 1950. Licensed in California in 1951. Doctor Oster was a member of the Santa Clara County Medical Society.

◆

Redewill, Francis H., Sr. Died in Whittier, December 20, 1957, aged 78, of uremic poisoning. Graduate of Johns Hopkins University School of Medicine, Baltimore, Maryland, 1906. Licensed in California in 1923. Doctor Redewill was a retired member of the San Francisco Medical Society and the California Medical Association, and an associate member of the American Medical Association.

◆

Vogel, Esther E. Died in Glendale, December 13, 1957, aged 44, of ovarian carcinoma with metastasis. Graduate of the College of Medical Evangelists, Loma Linda-Los Angeles, 1939. Licensed in California in 1939. Doctor Vogel was a member of the Los Angeles County Medical Association.

◆

Vruwink, John. Died in Pasadena, November 18, 1957, aged 67. Graduate of Rush Medical College, Chicago, 1916. Licensed in California in 1917. Doctor Vruwink was a retired member of the Los Angeles County Medical Association and the California Medical Association, and an associate member of the American Medical Association.

◆

Wayland, Raymond T. Died in San Jose, December 16, 1957, aged 67, of stroke. Graduate of Jefferson Medical College of Philadelphia, Pennsylvania, 1913. Licensed in California in 1915. Doctor Wayland was a member of the Santa Clara County Medical Society.

◆

Young, Charles S. Died in Los Angeles, December 14, 1957, aged 65, of pulmonary fibrosis. Graduate of the College of Physicians and Surgeons, Los Angeles, 1914. Licensed in California in 1914. Doctor Young was a member of the Los Angeles County Medical Association.

APPLICATION FOR HOUSING ACCOMMODATIONS

FOR YOUR CONVENIENCE in making hotel reservations for the coming meeting of the **California Medical Association,** April 27 to 30, 1958, Los Angeles, hotels and their rates are at the right. Use the form at the bottom of this page, indicating your first and second choice. Because of the limited number of single rooms available, you will stand a much better chance of securing accommodations of your choice if your request calls for rooms to be occupied by two or more persons. **All requests for reservations must give definite date and hour of arrival as well as definite date and approximate hour of departure; also names and addresses of all occupants of hotel rooms must be included.**

ALL RESERVATIONS MUST BE RECEIVED BEFORE: APRIL 1, 1958

Eighty-seventh Annual Session

CALIFORNIA MEDICAL ASSOCIATION

Los Angeles, California

APRIL 27-30, 1958

HOTEL ROOM RATES *

	Single	Twin Beds	Suites
AMBASSADOR HOTEL			
3400 Wilshire Boulevard			
Main Building	9.00-19.00	12.00-22.00	28.00-38.00
Garden Studios	17.00-23.00	22.00-30.00	40.00-54.00
CHAPMAN PARK HOTEL			
3405 Wilshire Boulevard		12.00-16.00	20.00-25.00
THE GAYLORD HOTEL			
3355 Wilshire Boulevard	8.00	10.50	18.00
HOTEL CHANCELLOR			
3191 West Seventh Street	7.00- 8.00	10.00-12.00	
SHERATON-TOWN HOUSE			
2961 Wilshire Boulevard	11.00-18.00	16.00-23.00	31.00

***The above quoted rates are existing rates but are subject to any change which may be made in the future.**

CALIFORNIA MEDICAL ASSOCIATION
450 Sutter Street—Room 2000
San Francisco 8, California

Please reserve the following accommodations for the 87th Annual Session of the California Medical Association, in Los Angeles April 27 to 30, 1958.

Single Room $.................... Twin Bedded Room $....................

Small Suite $.................... Large Suite $.................... Other Type of Room $....................

First Choice Hotel.................... Second Choice Hotel....................

ARRIVING AT HOTEL (date)....................Hour:..........A.M..........P.M.

Leaving (date)....................Hour:..........A.M..........P.M.

Hotel reservations will be held until 6:00 P.M., unless otherwise notified

THE NAME OF EACH HOTEL GUEST MUST BE LISTED. Therefore, please include the names of both persons for each twin-bedded room requested. Names and addresses of all persons for whom you are requesting reservations and who will occupy the rooms asked for:

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Individual Requesting Reservations—Please print or type Delegate?.......... Alternate?..........

Name.................... County....................

Address.................... City and State....................

California Medical Association

1958 *Annual Session*

AMBASSADOR HOTEL, LOS ANGELES

April 27-30

THREE POSTGRADUATE COURSES 9:00 a.m.-noon	Liver Diseases—A NINE-HOUR COURSE U.S.C. SCHOOL OF MEDICINE Abdominal Pain—A NINE-HOUR COURSE U.C.L.A. SCHOOL OF MEDICINE Management of Trauma—A NINE-HOUR COURSE COLLEGE OF MEDICAL EVANGELISTS A FEE WILL BE CHARGED FOR THE ABOVE COURSES *(For programs, see following pages)*

FOUR DAYS	GENERAL SCIENTIFIC MEETINGS TECHNICAL EXHIBITS · SCIENTIFIC EXHIBITS MEDICAL MOTION PICTURES
*	
PRESIDENT'S DINNER DANCE	TUESDAY, APRIL 29 COCOANUT GROVE, AMBASSADOR HOTEL
*	
HOUSE OF DELEGATES	SUNDAY, APRIL 27 AND WEDNESDAY, APRIL 30

REGISTRATION DAILY · 9:00 a.m. to 5:00 p.m. · NO REGISTRATION FEE

Please make hotel room reservations only through C.M.A. office in San Francisco
(Use reservation request form on facing page)

87th Annual Session

CALIFORNIA MEDICAL ASSOCIATION IN COOPERATION WITH THE

College of Medical Evangelists
University of California at Los Angeles and
University of Southern California

Presents . . .

Three New Postgraduate Courses During C. M. A. Annual Session

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Abdominal Pain

Program planned by the University of California at Los Angeles School of Medicine

APRIL 28, 29 and 30

West Venetian Room, Ambassador Hotel

MONDAY, APRIL 28

9:00-9:45 a.m.—**Painful Medical Diseases of the Abdomen**—William E. Molle, M.D.

9:45-10:00 a.m.—Recess.

10:00-10:45 a.m.—**Psychiatric Aspects of Abdominal Pain**—Frank F. Tallman, M.D.

10:45-11:30 a.m.—**Panel Discussion**—William E. Molle, M.D., Sherman M. Mellinkoff, M.D., and Frank F. Tallman, M.D.

11:30-12:00 noon—**Questions.**

TUESDAY, APRIL 29

9:00-9:45 a.m.—**Surgical Causes of Abdominal Pain**—Mark M. Ravitch, M.D.

9:45-10:00 a.m.—**Recess.**

10:00-10:45 a.m.—**Retroperitoneal Causes of Abdominal Pain**—Chester C. Winter, M.D.

10:45-11:30 a.m.—**Panel Discussion**—Chester C. Winter, M.D., Sherman M. Mellinkoff, M.D., and Mark M. Ravitch, M.D.

11:30-12:00 noon—**Questions.**

WEDNESDAY, APRIL 30

9:00-10:30 a.m.—**Systemic Causes of Abdominal Pain**—Sherman M. Mellinkoff, M.D.

10:30-10:45 a.m.—**Recess.**

10:45-11:30 a.m.—**Panel Discussion—Differential Diagnosis of Abdominal Pain**—William E. Molle, M.D., Sherman M. Mellinkoff, M.D., Mark M. Ravitch, M.D., Frank F. Tallman, M.D., and Chester C. Winter, M.D.

11:30-12:00 noon—**Questions.**

Fee: $30.00.

Liver Diseases

Program planned by the University of Southern California School of Medicine

APRIL 27, 28 and 29

Ambassador Hotel and Los Angeles County General Hospital

SUNDAY, APRIL 27

Symposium on Jaundice

(Los Angeles County General Hospital)

2:00-3:00 p.m.—**Panel—Liver Function Tests:**
Telfer B. Reynolds, M.D., Moderator
Charles S. Davidson, M.D.
Bernard J. Haverback, M.D.
Allan G. Redeker, M.D.

3:00-5:00 p.m.—**Clinic on Jaundice.** Small groups will see and discuss interesting patients with the faculty.

MONDAY, APRIL 28

Ambassador Hotel, French Room

9:00-9:40 a.m.—**Viral Hepatitis**—Charles S. Davidson, M.D.

9:40-10:10 a.m.—**Malignant Carcinoid Syndrome**—Bernard J. Haverback, M.D.

10:10-10:40 a.m.—**Wilson's Disease; A Treatable Condition**—Telfer B. Reynolds, M.D.

10:40-10:50 a.m.—**Recess.**

10:50-12:00 noon—**Diagnostic Techniques Applicable to Liver Disease**
Splenoportography—William P. Mikkelsen, M.D.
Hepatic Vein Catheterization—Allan G. Redeker, M.D.
Liver Biopsy—Telfer B. Reynolds, M.D.

TUESDAY, APRIL 29

Ambassador Hotel, French Room

Symposium on Cirrhosis

9:00-9:30 a.m.—**Alcohol vs. Nutrition in the Etiology of Cirrhosis**—Charles S. Davidson, M.D.

Complications of Cirrhosis

9:30-10:00 a.m.—**Ascites**—Telfer B. Reynolds, M.D.

10:00-10:40 a.m.—**Portal Hypertension**—William P. Mikkelsen, M.D., and Telfer B. Reynolds, M.D.

10:40-10:50 a.m.—**Recess.**

10:50-12:00 noon—**Hepatic Coma and Its Relationship to Ammonium Metabolism**—Charles S. Davidson, M.D.

Fee: $30.00. Limited to 100 Registrants.

Postgraduate Courses

William A. Altemeier, M.D., Christian R. Holmes Professor of Surgery, University of Cincinnati College of Medicine

Charles S. Davidson, M.D., Associate Professor of Medicine, Harvard Medical School, Boston

Mark M. Ravitch, M.D., Associate Professor of Surgery, Johns Hopkins University School of Medicine, Baltimore

Bronson S. Ray, M.D., Professor of Clinical Surgery (Chief, Department of Neurosurgery), New York Hospital-Cornell University Medical College, New York City

guest speakers

Management of Trauma

Program planned by College of Medical Evangelists

APRIL 28, 29 and 30

Ambassador Hotel
Embassy Room—Monday and Tuesday
East Venetian Room—Wednesday

MONDAY, APRIL 28

Robert L. Marsh, M.D., Chairman and Moderator

GENERAL TOPIC

Basic Science Applications to Trauma with Particular Attention to Shock and Burns

9:00-9:15 a.m.—**Fluid and Electrolytes**—David B. Hinshaw, M.D.
9:15-9:30 a.m.—**Hemorrhage**—Harry A. Davis, M.D.
9:30-9:45 a.m.—**Vasomotor Responses**—Philip J. Vogel, M.D.
9:45-10:00 a.m.—**Endocrines**—Roy F. Perkins, M.D.
10:00-10:15 a.m.—**Ventilation**—Clarence R. Collier, M.D.
10:15-10:35 a.m.—**Discussion and Summary**—Mark M. Ravitch, M.D.
10:35-10:50 a.m.—**Recess.**
10:50-12:00 noon—**Panel Discussion**
Robert L. Marsh, M.D., Moderator
Mark M. Ravitch, M.D.
Roy F. Perkins, M.D.
Harry A. Davis, M.D.
Philip J. Vogel, M.D.
Clarence R. Collier, M.D.
David B. Hinshaw, M.D.

TUESDAY, APRIL 29

Harry C. Prout, M.D., Chairman and Moderator

GENERAL TOPIC

Injuries to the Thorax and Abdomen

9:00-9:15 a.m.—**Injuries to the Thorax**—Ellsworth E. Wareham, M.D.
9:15-9:30 a.m.—**Injuries to the Abdomen**—Harry C. Prout, M.D.
9:30-9:45 a.m.—**Injuries to Blood Vessels**—Max R. Gaspar, M.D.
9:45-10:00 a.m.—**Injuries to the Genitourinary System**—Roger W. Barnes, M.D.
10:00-10:15 a.m.—**Management of Patients with Burns**—Clifford A. Barber, M.D.
10:15-10:35 a.m.—**Discussion and Summary**—William A. Altemeier, M.D.
10:35-10:50 a.m.—**Recess.**
10:50-12:00 noon—**Panel Discussion:**
Harry C. Prout, M.D., Moderator
William A. Altemeier, M.D.
Roger W. Barnes, M.D.
Clifford A. Barber, M.D.
Max R. Gaspar, M.D.
Ellsworth E. Wareham, M.D.

WEDNESDAY, APRIL 30

Alonzo J. Neufeld, M.D., Chairman and Moderator

GENERAL TOPIC

Injuries to Nervous System, Face, Skeleto-Muscular Structures

9:00-9:20 a.m.—**Injuries to Facial Structures**—Leland R. House, M.D.
9:20-9:40 a.m.—**Mechanism of Cerebral Injuries**—Cyril B. Courville, M.D.
9:40-10:00 a.m.—**Treatment of Injuries to the Nervous System**—Bronson S. Ray, M.D.
10:00-10:20 a.m.—**Injuries to Skeleto-Muscular Structures**—Vernon L. Nickel, M.D.
10:20-10:40 a.m.—**Recess.**
10:40-12:00 noon—**Panel Discussion:**
Alonzo J. Neufeld, M.D., Moderator
Bronson S. Ray, M.D.
Leland R. House, M.D.
Cyril B. Courville, M.D.
Vernon L. Nickel, M.D.

Fee: $30.00.

APPLICATION FORM

Postgraduate Activities
California Medical Association
2975 Wilshire Boulevard
Los Angeles 5, California

Enclosed please find my check for $30.00, made payable to *California Medical Association.* I plan to attend the Postgraduate Course.................................... in Los Angeles during the California Medical Association annual session.

Name..

Address..

☐ I am in General Practice
☐ I limit my practice to.........................

Medical school attended..

Year of graduation.........................

Interns and Residents are invited to attend free of charge.

WOMAN'S AUXILIARY
TO THE CALIFORNIA MEDICAL ASSOCIATION

Volunteer Services

The "GEMS" Program

It is difficult to imagine what American life, minus its volunteers, would be like. All of us have been asked to accept responsibility to do volunteer work in some activity important to the health and welfare of our family, of our community, our state or nation. In an address to the Auxiliary, Dr. Edward J. McCormick said, "Every doctor's wife should have a wholesome desire to preserve our democracy and bring continually improved medical care to the American people." The health movement has its finest flowering in this country. Nowhere else in the world has it experienced such an extensive and diversified development. In fact, it has become a permanent and important part of our national health program.

As you know, the Woman's Auxiliary to the California Medical Association does a tremendous volunteer service in nurse recruitment, in the formation of Future Nurse Clubs and in the giving of scholarships; and our public relations projects cover many volunteer services. Recently our Auxiliaries have become interested in the "GEMS" program (good emergency mother substitutes).

Certainly to be a baby sitter is a big challenge. This training is a priceless possession. The National Safety Council is keenly aware of the many parents who hire teenagers for purposes of baby sitting. It felt that for the safety of the baby sitter, the children involved, the parents and the home, there should be a guide for the planning and executing of a community project on safety, with respect to baby sitting. Safety and child care are so interwoven that education on how to care for children must include education in safe practices. Furthermore, so many youngsters in their teens are baby sitting that education must also be directed toward their protection. The formation of a baby sitters council or committee within the local Safety Council organization is basic. Working through existing groups such as the Girl Scouts, Campfire Girls, church youth groups and the P-TA can be of much benefit. All are interested in the welfare and safety of children; all welcome the opportunity to serve the community. Two of our county auxiliaries, Santa Clara and San Bernardino, have this program in operation; both counties feel that they are contributing greatly to the welfare of the community and are serving American medicine as well as providing a much needed service to their friends and neighbors.

The lessons for baby sitter "GEMS" are five in number, at least an hour long—and frequently longer because of group discussion. A packet from the National Safety Council has a suggested outline for a community course, and it covers child care, safety, first aid, what the parents expect. what the baby sitter expects, the prevention and care of accidental poisonings, dealing with aspiration of small articles, burns, and the preparation and serving of meals.

In order to have the course worth while, it must be conducted by persons who are experienced in this subject and who have a respected place in the community. The standards for passing the course are set high so that it is a challenge to the student.

Service to any organization means loyalty to principle and friends. With the "GEMS" program the auxiliary members show that we live what we preach and that we sustain and uphold the high standards of the medical profession.

Mrs. Leonard D. Offield
President, Woman's Auxiliary to the California Medical Association

NEWS & NOTES

NATIONAL · STATE · COUNTY

FRESNO

Dr. Robb Smith, Orange Cove, was elected president-elect of the Fresno County Medical Society at the organization's annual meeting in December, and Dr. John F. Murray, Fresno, was installed as president.

IMPERIAL

Dr. Burke Schoensee of El Centro was elected president of the Imperial County Medical Society at the society's annual meeting in December. He succeeded Dr. A. A. Adames, Holtville. Dr. Robert Chapman of Brawley was elected vice-president and Dr. Ernest Brock, Imperial, secretary-treasurer.

Dr. Milton A. Streuter of Brawley was elected delegate to the California Medical Association.

LOS ANGELES

The International College of Surgeons will hold its eleventh biennial International Congress in Los Angeles March 9 to 14 at the Hotel Ambassador. Surgical sections and general assemblies will present more than 100 national and foreign speakers. A special assembly program on Surgical Emergencies has been arranged for members of the American Academy of General Practice.

A preliminary program may be obtained from Dr. J. M. de los Reyes, general chairman, 1919 Wilshire Boulevard, Los Angeles 57.

* * *

An example of a physician's taking part in nonmedical matters of importance in his local community was given in a page one report by the journal of the Beverly Hills Chamber of Commerce upon the retirement of Dr. James C. Doyle, speaker of the House of Delegates of the California Medical Association, from the chamber's board of directors.

That he has followed the recommendation, made by a number of top officials in the American Medical Association, for physicians to take **an active interest in civic and cultural affairs** is shown by the chamber's list of his activities and positions of trust. Dr. Doyle has served as president of the Chamber of Commerce, of the Beverly Hills Men's Club, Beverly Hills Medical Association, Beverly Hills Rotary Club, Beverly Hills Philharmonic Association and Wilshire Boulevard Association; as a director of the Y.M.C.A. and as a director and local chairman of the American Red Cross. Dr. Doyle has given more than 300 lectures, many of them on medical subjects, to nonprofessional audiences.

James C. Doyle

SACRAMENTO

Dr. Paul Dudley White, professor emeritus of medicine at Harvard University School of Medicine, was the speaker at the first annual medical lecture sponsored by Sacramento County as an expression of the county's appreciation to the 180 physicians who donate their time in care of indigent patients at the Sacramento Hospital.

More than 500 members of the medical and allied professions attended Dr. White's talk on "The Health of the American Family from 1800 to 2000 A.D." The speaker was introduced by Dr. Dwight Murray of Napa, former president of the American Medical Association, who was instrumental in obtaining Dr. White's services.

Sacramento County plans to sponsor similar lectures each year.

SAN FRANCISCO

The April 10 to 12 annual meeting of the **California Tuberculosis and Health Association** has been moved from San Francisco to San Mateo. It will be held at the Villa Hotel, on El Camino Real in San Mateo, instead of at the Sheraton-Palace in San Francisco as originally planned. Meeting jointly with the CTHA will be its medical arm, the California Trudeau Society, the California Conference of Tuberculosis Workers and the California Sanatorium Association.

* * *

The San Francisco Academy of General Practice has announced that the **Fifth Annual Symposia in Medicine** will be given at the Fort Miley Veterans Administration Hospital, 42nd Avenue and Clement Street, on Tuesday evenings for six weeks, starting April 1 and ending May 6, 1958, from 8:00 to 10:00 p.m. The course is given with the cooperation of the medical departments of Stanford University School of Medicine, University of California School of Medicine and the Fort Miley Veterans Administration Hospital, the announcement said.

"The programs are especially formulated to the needs and desires of the general practitioners," the announcement continued, "and every effort is made to stress practical application in the daily practice of medicine."

It is not necessary to be a member of the academy to attend and the resident staffs of any of the hospitals are admitted without fee.

Dr. Forrest M. Willett, associate professor of medicine at Stanford University School of Medicine will act as moderator.

All inquiries and requests for programs should be sent to the chairman, Dr. Alex F. Fraser, 3490 Twentieth Street, San Francisco.

* * *

Establishment of a $210,000 **surgical research fund** at the University of California Medical Center here has been announced by Dr. J. B. deC. M. Saunders, dean of the School of Medicine. The fund will be known as the George K. Rhodes and Wilma Leah Rhodes Research Foundation. It represents the bulk of the estate of the late Dr. Rhodes, who died during World War II service and whose widow died last year.

Income from the fund, Dr. Saunders said, will help support a wide variety of research projects in the department of surgery.

Dr. Rhodes was clinical professor of surgery in the School of Medicine and many years was chief emergency surgeon of the City and County of San Francisco. He had established the bulk of his estate as a trust fund, the principal of which was to be given to the university after he and his wife had died.

At the 1957 annual meeting of the **California Society of Internal Medicine,** held in Palm Springs, the following officers were elected by approximately 225 members who attended: President, Robert L. Smith, Jr., San Francisco; vice-president, Walter P. Martin, Long Beach; secretary-treasurer, Clyde C. Green, Jr., San Francisco; Council members: William L. Cover, San Bernardino; Arthur F. Edwardes, Los Angeles; A. Lee Edgar, San Diego; Edward Shapiro, Beverly Hills; Reginald H. Smart, Los Angeles; James H. Thompson, San Francisco.

The annual meeting will be held October 17 to 19, 1958, in Yosemite Valley.

* * *

Dr. Robert M. Featherstone, who has been professor of pharmacology at the University of Iowa School of Medicine since 1955, has accepted appointment as professor and chairman of the department of pharmacology at the University of California School of Medicine, San Francisco.

Dr. Featherstone succeeds Dr. Hamilton H. Anderson, who had asked to be relieved of his administrative duties.

* * *

A $2,680,000 **research endowment** which will allow Stanford Medical School researchers to pursue unrestricted studies has been established through the estate of Mrs. Sophie K. Hall of Los Angeles.

The bequest, income from which will support the Lendal M. Gray research fund, is the largest single gift from an individual since the founding grant of Senator and Mrs. Leland Stanford in 1885.

Dr. Robert H. Alway, acting dean of the Medical School, said, "The money will be of immense help to us because of its applicability. It will permit us to launch studies in the fields of greatest promise or greatest need."

The grant is named for Mrs. Hall's first husband, a San Francisco shipping executive who was killed in 1911 in an automobile accident. Mr. and Mrs. Gray lived for several years in Atherton, on the northern edge of the Stanford campus.

SANTA CRUZ

Dr. R. Carey Alsberge of Santa Cruz was elected president of the Santa Cruz County Medical Society at the annual meeting in December. He succeeded Dr. James Spencer of Watsonville. Dr. James DePuy of Watsonville was elected vice-president and Dr. William Cress of Santa Cruz, secretary.

Dr. Luther Newhall of Santa Cruz and Dr. Spencer were named delegates to the California Medical Association.

SONOMA

Dr. Lucius L. Button, Santa Rosa, was elected president-elect of the Sonoma County Medical Society at the annual meeting in December, and Dr. Frank E. Lones, Santa Rosa, was installed as president, succeeding Walter E. Webber, also of Santa Rosa. Dr. Clayton Taylor was re-elected secretary-treasurer.

STANISLAUS

The **story of Medicine in Stanislaus County,** as related by many of those who helped write it, featured a recent meeting of the Stanislaus County Medical Society at Del Rio Golf and Country Club.

Discussing facets of county medical history were: Dr. A. M. Roscoe, formerly of Newman and now assistant medical director of Placer County Hospital; Drs. Fred R. DeLappe, E. V. Falk, Earl R. McPheeters, Frank Reardon, Jack Ranson, Ralph Maxwell, Carl Benson, Lloyd D. Mottram, Harold "Brick" Muller, and Herbert McLean Evans, U. C. professor who has achieved international fame. Dr. Evans, a native of Modesto, has instructed many doctors in the county.

Dr. Donald Robertson recounted historical notes and also presented the society with 23 portraits of early day medical figures.

Dr. Evelyn Mayman delivered an eulogy to Dr. C. W. Evans, a prominent figure in medicine in the Stanislaus area.

Dr. Guerne deLappe, outgoing president, was given an inscribed gavel by his successor, Dr. E. K. Prigge. Dr. George Paullus was named president-elect and Dr. John Woolley, secretary-treasurer. Elected to serve on the board of directors were Drs. K. A. Hill and C. Dwight Yates.

Dr. Robert Purvis received a plaque for his three years of service as secretary-treasurer.

Officers and directors presented an engraved trophy to Thomas DeVere, executive secretary of the society.

POSTGRADUATE EDUCATION NOTICES

THIS BULLETIN of the dates of postgraduate education programs and the meetings of various medical organizations in California is supplied by the Committee on Postgraduate Activities of the California Medical Association. In order that they may be listed here, please send communications relating to your future medical or surgical programs to: Mrs. Margaret H. Griffith, Director, Postgraduate Activities, California Medical Association, 2975 Wilshire Boulevard, Los Angeles 5.

UNIVERSITY OF CALIFORNIA AT LOS ANGELES

Preventive Psychiatry in Pediatric Practice. Mondays, February 24 to April 28. Ten hours. Fee: $75.00.

Recent Advances in General Surgery. Wednesday, February 26 to June 16. Twenty-six hours. Fee $75.00.

Postgraduate Medical Lecture Series (Saint Mary's Hospital, Long Beach). Tuesdays, March 4 to May 20. Twenty-four hours. Fee: $50.00.

Arthritis—Practical Considerations in Diagnosis and Management. Wednesday, March 5. Six hours. Fee: $5.00.

Diagnostic Parasitology for Laboratory Technologists. Wednesdays, March 12 to May 28. Thirty-six hours. Fee: $40.00.

The Clinical Approach to Diseases of the Blood. Wednesday, March 19. Six hours. Fee: $25.00.

Proctology. Wednesday, April 16. Six hours.†

Symposium—Occupational Therapists and Related Groups. Saturday, April 26. Six hours.†

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†Fee to be announced.

Emotional Problems in Office Practice (University of California Residential Conference Center, Lake Arrowhead). Thursday through Saturday, June 5 to 7. Twelve hours.†

Collagen Diseases. Friday and Saturday, June 6 and 7. Nine hours. Fee: $35.00.

Seventh Annual Symposium on Medical Technology. Saturday and Sunday, June 14 and 15. Twelve hours. Fee: $20.00.

Techniques of Hypnosis (Limited to 40). Monday through Wednesday, June 16 to 18. Fifteen hours.†

Advanced Techniques and Application of Hypnosis (Limited to 25). Wednesday through Friday, June 18 to 20. Fifteen hours.†

Techniques of Surgery. Monday through Friday (two weeks), July 21 to August 1. Seventy hours. Fee: $500.00.

Internal Medicine (at University of California Residential Conference Center, Lake Arrowhead), Wednesday through Saturday, August 20 to 23. Twelve hours.†

Surgical Anatomy (Dissection). Friday and Saturday. Date to be announced. Six hours.†

Obstetrics and Gynecology. Date, hours and fee to be announced.

Surgery of Trauma. Date, hours and fee to be announced.

Casts, Splints and Bandages. Date to be announced. Wednesday. Six hours.†

Contact: Thomas H. Sternberg, M.D., Assistant Dean for Postgraduate Medical Education, U.C.L.A., Los Angeles 24. BRadshaw 2-8911, Ext. 202.

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

Postgraduate Seminars in Pharmacy. Thursday to Saturday, February 20 to 22. Fifteen hours. Fee: $25.00.

Medical Emergencies. (Herrick Hospital, Berkeley). Thursday through Saturday, February 20, 21 and 22. Twenty hours. Fee: $50.00.

Course for Physicians in General Practice. Monday through Friday, February 24 to 28, 1958. Thirty-two hours.†

Bedside Cardiology. Monday through Friday, March 10 through 14. Thirty-five hours.†

Children's Hospital Medical Seminar (Allergy). Saturday, March 29. Seven hours.†

Ear-Nose-Throat. Friday and Saturday, June 6 and 7. Fourteen hours. Fee: $40.00.

Diagnostic Radiology. Date, hours and fee to be announced.

Interpretation of Laboratory Tests. Date, hours and fee to be announced.

Fundamental Principles of Radioactivity and the Diagnostic and Therapeutic Uses of Radioisotopes. Two or three month course limited to one enrollee per month. Per month, $250.00.

Contact: Seymour M. Farber, M.D., Head, Postgraduate Instruction, Office of Medical Extension, University of California Medical Center, San Francisco 22. MOntrose 4-3600, Ext. 665.

STANFORD UNIVERSITY SCHOOL OF MEDICINE

Morning Clinical Conferences, each Monday, Room 515. *Contact:* D. H. Pischel, M.D., Professor, Division of Ophthalmology, Stanford University School of Medicine, 2398 Sacramento St., San Francisco 15.

Postgraduate Conference in the Surgery of Trauma. March 24 to 28.

Postgraduate Conference in Ophthalmology. March 31 to April 4.

UNIVERSITY OF SOUTHERN CALIFORNIA, LOS ANGELES

Cardiac Resuscitation. Sponsored by the Los Angeles County Heart Association each Wednesday throughout the year, 4 to 6 p.m. Residents admitted without fee. Tuition for all other physicians: $30.00. (Each session all-inclusive.)

Basic Home Course in Electrocardiography. One year Postgraduate Series, electrocardiogram interpretation by mail. Physicians may register at any time and receive all 52 issues. Fifty-two weeks. Fee: $100.00.

Advance Home Course in Electrocardiography. One year postgraduate series, electrocardiogram interpretation by mail. Fifty-two issues: $85.00. Physicians may register at any time.

Office Orthopedics. Designed to be of value to the physician in general practice. March 14 to 16. Hotel Statler, Los Angeles, 9 to 5 each day.

The Edematous State. March 28 and 29, Hotel Statler, Los Angeles, 9 to 5.

Special Announcement: From August 5 to August 21, 1958, the University of Southern California School of Medicine will hold a postgraduate course in Honolulu and on board the *S.S. Matsonia.* The course will center around actual case histories, which will be used to emphasize diagnostic and therapeutic features.

Contact: Phil R. Manning, M.D., Director, Postgraduate Division, University of Southern California School of Medicine, 2025 Zonal Avenue, Los Angeles 33. CApital 5-1511.

COLLEGE OF MEDICAL EVANGELISTS

Vue-Vox Postgraduate Refresher Courses. Courses are made up of four or more half-hour lectures each, recorded on hi-fi magnetic tape and illustrated by 35-mm. filmstrips or slides in full color, and adapted for use on any standard tape recorder and filmstrip or slide projector, automatic or manual.

Contact: Paul D. Foster, M.D., chairman, Committee on Audio-Visual Courses, College of Medical Evangelists School of Medicine, 316 North Bailey St., Los Angeles 33.

CALIFORNIA MEDICAL ASSOCIATION POSTGRADUATE COURSES

POSTGRADUATE INSTITUTES—1958

San Bernardino, Riverside and Orange Counties, in cooperation with College of Medical Evangelists, Arrowhead Springs Hotel, San Bernardino County, February 13 and 14, 1958. Chairman: Elmer O. Carlson, M.D., 756 N. Euclid Ave., Ontario.

West Coast Counties, in cooperation with UCLA School of Medicine, Golden Bough Theater and La Playa Hotel, Carmel, March 6 and 7, 1958. Chairman: Howard C. Miles, M.D., 535 E. Romie Lane, Salinas.

Sacramento Valley Counties, in cooperation with University of California School of Medicine. El Dorado Hotel. March 14 and 15. Chairman: Fred Schroeder, M.D., 2909 J Street, Sacramento.

San Joaquin Valley Counties, in cooperation with Stanford University School of Medicine, Hotel Californian, Fresno, March 20 and 21, 1958. Chairman: Henry L. Tiesche, M.D., 1759 Fulton St., Fresno.

North Coast Counties, in cooperation with USC School of Medicine, Hoberg's Resort, Lake County, April 10, 11 and 12, 1958. Chairman: Alfred A. Thurlow, Jr., M.D., 185 Sotoyome Ave., Santa Rosa.

Contact: One of the chairmen listed above, or Mrs. Margaret H. Griffith, Director, Postgraduate Activities, California Medical Association, 2975 Wilshire Blvd., Los Angeles 5. DUnkirk 5-2341.

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Audio Digest Foundation, a nonprofit subsidiary of the C.M.A., now offers (on a subscription basis) a series of hour-long tape recordings designed to keep the physician abreast of current happenings in his particular field. Composed of practice-useful abstracts from 600 leading journals, with short lectures and editorial comments from prominent physicians, Audio Digest offers programs covering general practice, surgery, internal medicine, obstetrics and gynecology, and pediatrics.

Contact: Claron L. Oakley, editor, 1919 Wilshire Blvd., Los Angeles 57.

Medical Dates Bulletin

FEBRUARY MEETINGS

Colorado State Medical Society Midwinter Clinical Session, February 18 to 21, Shirley-Savoy Hotel, Denver. *Contact:* Harvey T. Sethman, executive secretary, 835 Republic Bldg., Denver 2.

City of Hope Medical Center Symposium on "Effects of Drugs on the Central Nervous System," City of Hope Medical Center, Duarte, February 19 to 21. Fee is $10 for one day and $25 for full symposium. *Contact:* Julian Love, M.D., director, School of Postgraduate Medicine, City of Hope Medical Center, Duarte.

California Blood Bank Annual Meeting, Miramar Hotel, Santa Barbara, February 20 to 22. *Contact:* Helen E. Drew, secretary, P. O. Box 1148, Santa Barbara.

Los Angeles Radiological Society Tenth Annual Midwinter Conference, Biltmore Hotel, Los Angeles, February 22 and 23, 9:30 a.m. *Contact:* John H. Eaton, M.D., secretary-treasurer, 65 N. Madison Ave., Pasadena 1.

Highland-Alameda County Hospital Symposium: Chemistry, Biochemistry and Metabolism of Lipids, at the hospital. 9:00 a.m. to 5:00 p.m., February 24 through 28; 9:00 a.m. to 12:00 noon on March 1. Auspices will be "Center for Post-Doctoral Study" and "The Institute for Metabolic Research." *Contact:* L. W. Kinsell, M.D., director of the Institute for Metabolic Research, 2701 14th Avenue, Oakland 6.

MARCH MEETINGS

International College of Surgeons 23rd Annual Congress of U. S. and Canadian Sections 11th Biennial International Congress, March 9 to 13, Hotel Ambassador, Los Angeles. *Contact:* J. M. de los Reyes, M.D., general chairman, 2010 Wilshire Blvd., Los Angeles 57.

Southwestern Pediatric Society Annual Lecture Series, March 11 and 12, Statler Hotel, Los Angeles. *Contact:* D. Hovsepian, M.D., program chairman, 960 E. Green St., Pasadena.

California Society of Plastic Surgeons Annual Meeting, March 20 to 22, Del Monte Lodge, Del Monte, California. *Contact:* Benjamin F. Edwards, M.D., 2200 Santa Monica Blvd., Santa Monica.

American College Health Association Annual Meeting, March 25 to 29, Ambassador Hotel, Los Angeles. *Contact:* Donald McKinnon, M.D., Student Health Service, University of California Medical Center, Los Angeles 24.

APRIL MEETINGS

San Francisco Heart Association Nurses Institute on the Care of the Cardiac Patient, April 2 and 3. Marina Junior High School, San Francisco, 8:30 a.m. to 4:00 p.m. *Contact:* Miss Jean Sullivan, program director, 259 Geary St., San Francisco.

California Tuberculosis and Health Association, California Trudeau Society and the California Conference of Tuberculosis Workers Annual Meeting, Villa Hotel, San Mateo, April 9 through 12, 1958. *Contact:* E. L. Daggett, director public information, 130 Hayes Street, San Francisco 2, HEmlock 1-8771.

Valley Children's Hospital Spring Clinics, April 11 and 12. Roosevelt High School Auditorium, Fresno. *Contact:* Valley Children's Hospital, Fresno.

American College of Obstetricians and Gynecologists, April 21 to 23, Los Angeles. *Contact:* John C. Ullery, M.D., secretary, 15 South Clark St., Chicago 3.

California Medical Association Annual Meeting, Ambassador Hotel, Los Angeles, April 27 to 30. *Contact:* John Hunton, executive secretary, 450 Sutter St., San Francisco 8, or Ed Clancy, director, Public Relations, 2975 Wilshire Blvd., Los Angeles 5.

MAY MEETINGS

Los Angeles County Heart Association Annual Membership Meeting, May 1, 7:00 p.m., Los Angeles. *Contact:* Chauncey A. Alexander, executive director, 660 S. Western Avenue, Los Angeles 5.

Western Gerontological Society Third Annual Convention, May 3 and 4, Hotel Statler, Los Angeles. Begins 1:00 p.m. May 3. *Contact:* Chas. A. Preuss, M.D., president, 1317 Santa Barbara Street, Santa Barbara.

American Psychiatric Association Annual Meeting, May 12 to 16, Civic Auditorium, San Francisco. *Contact:* Alfred Auerback, M.D., 450 Sutter St., San Francisco.

Hawaiian Divisional Meeting, American Psychiatric Association, May 17 to 22, Hawaiian Village, Honolulu. *Contact:* Alfred Auerback, M.D., 450 Sutter St., San Francisco.

WESTERN BRANCH, AMERICAN PUBLIC HEALTH ASSOCIATION Annual Meeting with Canadian Public Health Association, May 18 to 23, Vancouver, B. C. *Contact:* Mrs. L. Amy Darter, secretary-treasurer, 2151 Berkeley Way, Berkeley 4.

AMERICAN LARYNGOLOGICAL ASSOCIATION, May 19 to 20, San Francisco. *Contact:* James H. Maxwell, M.D., secretary, University Hospital, Ann Arbor, Michigan.

AMERICAN BRONCHO-ESOPHAGOLOGICAL ASSOCIATION, May 21 to 23, San Francisco. *Contact:* F. Johnson Putney, M.D., secretary, 1719 Rittenhouse Square, Philadelphia, Pa.

CALIFORNIA HEART ASSOCIATION Annual Meeting, Scientific Session and Directors Meeting, Hacienda Motel, Fresno, May 23 to 25. *Contact:* J. Keith Thwaites, executive director, 1428 Bush St., San Francisco.

SUMMER AND FALL MEETINGS

AMERICAN COLLEGE OF CHEST PHYSICIANS 24th Annual Meeting, June 18 to 22, San Francisco. *Contact:* Mr. Murray Kornfeld, executive director, 112 East Chestnut St., Chicago 11, Ill.

AMERICAN MEDICAL ASSOCIATION Annual Meeting, June 23 to 27, San Francisco. *Contact:* American Medical Association, 535 North Dearborn St., Chicago 10.

AMERICAN PROCTOLOGIC SOCIETY, June 29 to July 3, Los Angeles. *Contact:* Norman D. Nigro, M.D., secretary, 10 Peterboro St., Detroit 1, Michigan.

IDAHO STATE MEDICAL ASSOCIATION Annual Convention, July 6 to 9, Sun Valley, Idaho. *Contact:* Armand L. Bird, executive secretary, 364 Sonna Building, Boise.

WASHINGTON STATE MEDICAL ASSOCIATION Annual Convention, September 14 to 17, 1958, Spokane, Washington. *Contact:* Ralph W. Neill, executive secretary, 1309 Seventh Ave., Seattle, Wash.

CALIFORNIA ACADEMY OF GENERAL PRACTICE Tenth Annual Scientific Assembly, October 5 to 8, San Francisco. *Contact:* William W. Rogers, executive secretary, 461 Market Street, San Francisco 5.

CALIFORNIA SOCIETY OF INTERNAL MEDICINE Annual Meeting, October 17 to 19, Ahwahnee Hotel, Yosemite. *Contact:* Mrs. Mildred B. Coleman, executive secretary, or Dr. Clyde C. Greene, secretary-treasurer, 350 Post St., San Francisco 8.

AMERICAN HEART ASSOCIATION Scientific Sessions and Meetings, October 24 to 27, Fairmont Hotel and Civic Auditorium, San Francisco. *Contact:* J. Keith Thwaites, executive director, California Heart Association, 1428 Bush Street, San Francisco 9.

For Your Patients—

A Personal Message to YOU:

As your personal physician I consider it both a privilege and a matter of duty to be available in case of an emergency. But, being only human you can understand that there are times when I may not be on call. I might be at a medical meeting outside the city, on a bit of a vacation—or even ill.

Consequently, I thought it would be a good precaution if—on this gummed paper which you can paste in your telephone book or in your medicine cabinet—I listed numbers where I can be reached at all times. Also, the number of a capable associate as an added service. Here they are:

____________	____________	____________
OFFICE	HOME	MY DOCTOR
____________	____________	____________
OFFICE	HOME	ASSOCIATE

Sincerely,

______________________________, M.D.

MESSAGE NO. 1. Attractive, postcard-size leaflets printed on gummed paper, you to fill in telephone numbers and your signature. Available in any quantity, at no charge, as another service to CMA members. Please order by Message Number from CMA, PR Department, 450 Sutter, San Francisco.

EIGHTH ANNUAL REGIONAL

1

WEST COAST COUNTIES

Presented by Postgraduate Activities Committee of the California Medical Association, in cooperation with Monterey, Santa Cruz and San Benito County Medical Societies, and the Postgraduate Division of University of California, Los Angeles, Thomas H. Sternberg, M.D., Assistant Dean for Postgraduate Medical Education.

Golden Bough Theater and La Playa Hotel, Carmel... March 6 and 7

PROGRAM

THURSDAY, MARCH 6, 1958

9:00-9:35 a.m.—**Recent Advances in Urology**—Willard E. Goodwin, M.D.

9:35-10:10 a.m.—**New Adenovirus Infections in Children**—John M. Adams, M.D.

10:25-11:00 a.m.—**Diagnosis and Management of Anemia**—William N. Valentine, M.D.

11:00-12:00 a.m.—Three Panel Discussions (you may go to one of your choice):

Enuresis
Bleeding Disorders
Psychology of Malpractice

12:00-2:00 p.m.—Luncheon Meeting, La Playa Hotel

New Trends in Postgraduate Education—Edward C. Rosenow, Jr., M.D., Chairman, California Medical Association, Postgraduate Activities Committee

Open question and answer session on morning lectures

2:00-2:35 p.m.—**Abdominal Pain**—Willard E. Goodwin, M.D.

2:35-3:10 p.m.—**Hepatitis**—John C. Sharpe, M.D.

3:25-4:00 p.m.—**Emotional Problems**—Frank F. Tallman, M.D.

4:00-5:00 p.m.—Two Panel Discussions (you may go to one of your choice):

Emotional Problems
Management of the Obstructing Prostate in the Poor Risk Patient

6:30 p.m.—No Host Social Hour, La Playa Hotel

8:00 p.m.—Dinner. Monterey Peninsula Country Club in Del Monte Forest

The Use of Hypnosis in Medicine—Roy M. Dorcus, Ph.D.

FRIDAY, MARCH 7, 1958

9:00-9:35 a.m.—**Diagnostic Application of Radioisotopes**—Leslie R. Bennett, M.D.

9:35-10:10 a.m.—**Diagnosis and Management of Skin Tumors**—Thomas H. Sternberg, M.D.

10:25-11:00 a.m.—**Surgical Treatment of Superficial Lesions**—Franklin L. Ashley, M.D.

11:00-12:00 a.m.—Three Panel Discussions (you may go to one of your choice):

Skin Tumor Clinic
Diagnosis and Treatment of Malignant Blood Disorders
Psychology of Malpractice

12:00-2:00 p.m.—Luncheon Meeting, La Playa Hotel

Open question and answer session on morning lectures

2:00-2:35 p.m.—**Examination and Primary Treatment of Hand Injuries**—James N. Wilson, M.D.

2:35-3:10 p.m.—**Emotional Problems**—Floyd M. Estess, M.D.

3:25-4:00 p.m.—**Newer Therapy in Diabetes**—Josiah Brown, M.D.

4:00-5:00 p.m.—Three Panel Discussions (you may go to one of your choice):

Emotional Problems
Treatment of Thyroid Disease
Hand Injuries

HOST: Monterey County Medical Society . . . **REGIONAL CHAIRMAN:** Howard C. Miles, M.D., 535 East Romie Lane, Salinas, California . . . **Institute Fee: $20.00*** For additional information, contact Postgraduate Activities office, California Medical Association, 2975 Wilshire Boulevard, Los Angeles 5. **All California Medical Association members and their families are cordially invited to attend.**

*$10.00 for physicians who have registered at a previous Institute in Spring, 1958.

POSTGRADUATE INSTITUTES

2

SACRAMENTO VALLEY COUNTIES

Presented by Postgraduate Activities Committee of the California Medical Association, in cooperation with Amador, Butte, Colusa, El Dorado, Glenn, Lassen, Modoc, Nevada, Placer, Plumas, Sacramento, San Joaquin-Calaveras, Shasta, Sierra, Siskiyou, Sutter, Tehama, Trinity, Yolo, Yuba, Del Norte, Humboldt, Napa, Mendocino-Lake, Solano, Sonoma, Marin and Contra Costa County Medical Societies, and the University of California, San Francisco, Seymour M. Farber, M.D., Head of Medical Extension.

El Dorado Hotel, Sacramento

March 14 and 15

PROGRAM

FRIDAY, MARCH 14, 1958

MORNING SESSION

The Desire to Live—The Younger Citizen

9:00-9:45 a.m.—**Genetics**—To be announced.

9:45-10:30 a.m.—**Differential Diagnosis and Management of Childhood Fevers**—Edward B. Shaw, M.D.

10:45-11:30 a.m.—**Differential Diagnosis of Surgical Problems**—Leon Goldman, M.D.

11:30-12:15 p.m.—**Behavior Problems in Children**—George H. Schade, M.D.

12:15-1:50 p.m.—Luncheon
Panel: **Behavior Problems and their Management**

AFTERNOON SESSION

Learning to Live—The Citizen in the Middle Years

2:00-2:45 p.m.—**Fads and Fancies in Arteriosclerosis**—Richard J. Havel, M.D.

2:45-3:30 p.m.—**Nutritional Aspects of Liver Disease**—John V. Carbone, M.D.

3:45-4:30 p.m.—**Endocrine Changes Influencing Gynecological Problems**—Alan Margolis, M.D.

4:30-5:15 p.m.—**Conflicts and Concerns of the Middle Years**—August R. Prestwood, M.D.

No Host Social Hour—El Dorado Lounge

SATURDAY, MARCH 15, 1958

MORNING SESSION

Appreciative Living—The Citizen in the Aging Years

9:00-9:45 a.m.—**Endocrine Changes with Aging**—Gilbert S. Gordan, Jr., M.D., Ph.D.

9:45-10:30 a.m.—**Surgical Procedures: Indications and Contraindications**—Robert C. Combs, M.D.

10:45-11:30 a.m.—**Aids from Physical Medicine**—Gregory Bard, M.D.

11:30-12:15 p.m.—**Psychiatric Aspects of the Aging Mind**—Joseph B. Wheelwright, M.D.

12:15-1:50 p.m.—Luncheon
Panel: **Management of Traumatic Situations in the Elder Citizen**

AFTERNOON SESSION

The Neglected Business World of the Physician

2:00-2:30 p.m.—**Clinical Pathological Conference on Tax Problems of the Medical Profession**—Mr. Clarence E. Musto

2:30-3:00 p.m.—**Financial Planning for Physicians**—Mr. David A. Bardes

3:00-3:30 p.m.—**A Protective Investment Program—Tax Free Bonds, Common Stocks, Mutual Funds**—Mr. Albert E. Schwabacher, Jr.

3:45-5:00 p.m.—Panel Discussion and Questions from the Audience:
Dynamic Business Concepts in Planning for the Future

HOST: Sacramento Society for Medical Improvement . . . **REGIONAL CHAIRMAN:** Fred Schroeder, M.D., 2909 J Street, Sacramento, California . . . **Institute Fee: $20.00*** For additional information, contact Postgraduate Activities office, California Medical Association, 2975 Wilshire Boulevard, Los Angeles 5. **All California Medical Association members and their families are cordially invited to attend.**

*$10.00 for physicians who have registered at a previous Institute in Spring, 1958.

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SAN JOAQUIN VALLEY COUNTIES

Presented by Postgraduate Activities Committee of the California Medical Association, in cooperation with Fresno, Inyo-Mono, Kern, Kings, Madera, Merced-Mariposa, San Joaquin, Stanislaus, Tulare and Tuolumne County Medical Societies, and the Stanford University School of Medicine, Lowell A. Rantz, M.D., Director of Postgraduate Programs.

Hotel Californian, Fresno... March 20 and 21

PROGRAM

THURSDAY, MARCH 20, 1958

9:00-9:40 a.m.—**Hospital Acquired Infection**—Lowell A. Rantz, M.D.

9:40-10:20 a.m.—**Treatment of Bleeding Esophageal Varices**—Roy B. Cohn, M.D.

10:30-11:15 a.m.—**The Role of the Artificial Kidney in Treatment**—John Young, M.D.

11:15-12:00 noon—**The Economic Outlook and the Physician's Investment Program**—Mr. Hood M. Harris

12:00-2:00 p.m.—Luncheon. Question and Answer Session on **Physician's Investment Program**

2:00-3:00 p.m.—**Treatment of Common Fractures**—Donald E. King, M.D.

3:00-5:00 p.m.—Three Panel Discussions (you may go to one of your choice):

Management of Highway Injuries

Treatment of Hypertension

Hematological Problems in the First Year of Life

FRIDAY, MARCH 21, 1958

9:00-10:00 a.m.—**Screening Methods in Diagnosis of Cancer**—Laurens P. White, M.D.

10:00-12:00 noon—Three Panel Discussions (you may go to one of your choice):

Obstetrical Emergencies

Diagnosis and Treatment of Jaundice

Medical Diseases of the Kidney

12:00-2:00 p.m.—Luncheon

2:00-3:00 p.m.—**Diagnostic and Therapeutic Use of Isotopes**—Joseph P. Kriss, M.D.

3:00-5:00 p.m.—Three Panel Discussions (you may go to one of your choice):

Hematology

Problems of Surgery and Pregnancy in Patients with Heart Disease

Hemoptysis, Hematemesis and Melena

HOST: Fresno County Medical Society . . . **REGIONAL CHAIRMAN:** Henry L. Tieche, M.D., 1759 Fulton Street, Fresno, California . . . **Institute Fee: $20.00***. For additional information, contact Postgraduate Activities office, California Medical Association, 2975 Wilshire Boulevard, Los Angeles 5. **All California Medical Association members and their families are cordially invited to attend.**

*$10.00 for physicians who have registered at a previous Institute in Spring, 1958.

THE PHYSICIAN'S *Bookshelf*

MEDICAL PHYSIOLOGY—Tenth Edition—Edited by Philip Bard, Professor of Physiology, School of Medicine, The Johns Hopkins University. The C. V. Mosby Company, St. Louis, 1956. 1421 pages, $14.00.

It is almost customary for textbooks in physiology to have a heavy emphasis in one field with rather cursory treatments of other fields. In the case of Bard's *Medical Physiology* the reverse seems to be true. In general the treatment of the subject matter of physiology shows rare balance. Circulation justly receives the most extensive treatment, but not to the detriment of respiration, alimentation, metabolism and nutrition, endocrinology and neurophysiology. Each of the above are dealt with in a thorough, business-like manner. Perhaps special mention should be made of the chapters on the circulation because of their easy readability and, indeed, beauty of prose styling. The principal defect in the balance of the book is its inadequate treatment of the kidney. Less space is devoted to the entire subject of kidney function than to the reflex activity of the spinal cord. However, although this is a serious defect in any book intended for use with medical students, it is compensated for to some extent by the treatment of subjects of clinical importance that are usually neglected. For example, in the section entitled "Respiration" alone the chapters on "Abnormal types of breathing," "Anoxia." and the "Poisonous effects of nitrogen, oxygen and carbon dioxide" contain much physiological pathology frequently not introduced in medical education until later in the clinical years and hence often not considered "physiological" by the student.

With the exception noted above this text is well-rounded, easy to read and quite complete. It should receive wide acceptance as a basic reference as well as teaching text in medical physiology.

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EXPERIMENTAL PSYCHOPATHOLOGY—Edited by Paul H. Hock, M.D., New York State Psychiatric Institute; College of Physicians and Surgeons, Columbia University, New York City; and Joseph Zubin, Ph.D., New York State Psychiatric Institute; Department of Psychology, Columbia University. The Proceedings of the 45th Annual Meeting of the American Psychopathological Association, held in New York City, June 1955. Grune & Stratton, New York, 1957. 275 pages, $6.50.

This collection of papers from the 1955 meeting of the American Psychopathological Association is designed to present the main experimental trends in the field of psychopathology. In the words of the editors: "It covers the entire gamut from animal to man, from perception of social attitudes to experimental induction of depersonalization." The papers are evidence of the increasing attempts to apply the scientific method to the study of emotional disorders—and to test psychogenic hypotheses.

Some of the work on experimental animals, while interesting, will be difficult for the physician, except those familiar with the language of experimental psychology, to understand. However approach-avoidance experiments performed with cats by Norma A. Scheflen, Ph.D., demonstrated how fear produced in one situation was carried over to a similar situation and how extinction of fear in the similar situation reduced the fear of the original situation. A possible relationship between such experimental findings and the development and treatment of psychiatric disorders was suggested.

Drs. Gantt and Dykman, in conditioning experiments with dogs, demonstrated an increase in heart rate upon application of the stimulus that appeared before somatic motor conditioned responses and that persisted for long periods of time and sometimes accompanied by the development of additional "neurotic" symptoms after the experiments were discontinued. Some inferences regarding cardiac neuroses in humans were suggested.

Other papers dealt with behavior and metabolic cycles found in man and produced experimentally in animals by brain or endocrine gland lesions or by severe stress, with the effects of hallucinogenic drugs, with psychotherapy, studies in human ecology and the problem of "consciousness" and awareness.

The volume will appeal mostly to the physician who is concerned with the investigation or treatment of emotional disorders but will be of interest to others who are following the changing trends in psychiatry.

Norman Q. Brill, M.D.

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STEPS FOR TODAY TOWARD BETTER MENTAL HEALTH—Pointers to Action for All Who Give Health Services—Report of the 1957 National Health Forum. Edited by Josephine Nelson and Elizabeth M. Dach. National Health Council, 1790 Broadway, New York 19, N. Y., 1957. 118 pages, $1.50.

The National Health Forum annually considers a health problem or development of nationwide concern needing planning and perhaps action. In 1957 the Forum focused on "Steps for Today Toward Better Mental Health." This summary provides an excellent manual for individuals or groups interested in the Community Mental Health services program.

One interesting section *"When to Call the Psychiatrist"* lists the following as bases for seeking psychiatric help: (1) When a person is not himself for a period of time. (2) When a person expresses ideas which you know don't make sense. (3) When a person makes silly mistakes over a period of time and you know that he knows better. (4) When a person acts or talks like he doesn't know where he is or what day it is, for a period of time. (5) When one consistently makes those around him unhappy, upset, worried, over a period of time, say a few months or so, and there is no reasonable, acceptable explanation that is not rationalization. (6) When a person drinks enough to interfere with work, school, or decent family or social relationships. (7) When a person loses appetite or weight over a month or so, and there is no physical illness or need to lose weight. (8) When one has trouble sleeping over a period of time, losing sleep to the point that he shows irritability.

PRACTICAL USE OF THE OFFICE LABORATORY AND X-RAY — Including the Electrocardiograph — Paul Williamson, M.D. The C. V. Mosby Company, St. Louis, 1957. 323 pages, $10.75.

This manual attempts to encompass laboratory, ECG and radiologic procedures for the office. As a laboratory guide to the clinician, the work may have merit, but for the technician, a constant compromise between limitations of the small laboratory and the need for up-to-date methods is evident.

After rather extensive discussions of technique in hematology, bacteriology, chemistry, some parasitology, mycology, and immunology, the author states, "I would recommend that the physician train his own technician, since school-trained technicians are experts in advanced techniques." With the decreasing exposure of physicians to the laboratory in present graduate training, one might well question the ability of most physicians, young or old, to train a "technician," even for the "office laboratory." The techniques a student can pick up from a well-trained technologist make it preferable to send the former to a good medical laboratory for a more satisfactory introduction.

Although a discussion of errors in technique is given for the procedures presented, some precautions should be added, such as use of disposable lancets for obtaining blood (to reduce serum hepatitis), and care in injecting BSP dye, since leakage around the vein can be very distressing. No mention is made of test tapes or sticks although these have largely replaced Benedict's solution as a qualitative test, and are time-saving for the small laboratory. Other tablet or stick tests for urinalysis are also omitted. The entire technical discussion of chemical tests is omitted with the explanation that instructions are given in the manual accompanying a photocolorimeter.

A section on Electrocardiography discusses some of the indications for use of the ECG, points of interpretation, and possible errors. In the diagnosis of "The Coronary Attack" the use of the transaminase determination is omitted. Regarding the difficult cardiac case the author properly concludes ". . . it is probably best to refer the ECG *and the patient* to a cardiologist for diagnosis and recommendations."

The radiology section outlines the diagnosis and to a certain extent the differential diagnosis of certain normal and abnormal findings, in many instances with line drawings. The author displays great faith in the x-ray diagnosis of certain conditions, such as emphysema. Concerning this he states, "Errors in (x-ray) diagnosis are rare."

Similarly, concerning cardiac radiology he writes, "It is of course easy to tell both clinically and by x-ray what chambers of the heart are enlarged." The correct diagnosis of enlargements of the ventricle, especially the right ventricle, are often quite difficult to determine. In connection with the diagnosis of intra-atrial septal defects (the author doubtless means inter-atrial) he writes, "Errors are practically unheard of in diagnosing this condition. Diagnosis is simple and apparent in most cases, both clinically and roentgenologically. This is not true when very young babies are studied by x-ray, but it holds for adults." This is indeed the height of optimism.

The instructions for barium enema preparations are as follows: "The patient should eat lightly the day before examination and not take a laxative. In the evening before retiring he should take a plain water enema and upon rising the next morning take at least four plain water enemas. If the return from the fourth enema is not clear, he should take still another." This will tax the elderly and yield poorer results than oleum ricini. For the diagnosis of simple colitis, the author apparently relies on finding a portion of the colon that shows spasm and loss of normal markings. The author then saves the day by noting that an irritable colon must be diagnosed clinically, not roentgenologically.

The technique and interpretation of hysterosalpingogography and other contrast media procedures are outlined, but nowhere is there mention of the hazards to the physician or his patient from excessive amounts of diagnostic radiation.

For the office laboratory "technician," introduction to technique by a well-trained technologist would seem more satisfactory than the use of a text which, by the author's admission, is "a beginning—and nothing more." And for the busy clinician, the help and advice of a laboratory consultant, electrocardiologist or radiologist in setting up whatever procedures are considered desirable, will in most cases be a saving of time and money.

C. M. McCandless, M.D.
L. H. Garland, M.B.

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ROENTGEN DIAGNOSIS OF ABDOMINAL TUMORS IN CHILDHOOD—Charles M. Nice, Jr., M.D., Ph.D., Alexander R. Margulis, M.D., and Leo G. Rigler, M.D., Department of Radiology, University of Minnesota Medical School. Charles C. Thomas, Publisher, Springfield, Illinois, 1957. 75 pages, $4.00.

This monograph is divided into eight sections, the major ones dealing with anatomic and embryologic factors, and a series of roentgen considerations. Masses in the region of the liver and other intraperitoneal sites are first considered. Then renal and adrenal masses. Then various other extraperitoneal masses are described in a series of four chapters.

The roentgen diagnosis of certain of these tumors is well outlined. However, the method of presentation might be a little more systematic, and in the next edition it would be worthwhile adding material on differential diagnosis. The importance of gonadal protection in the examination of infants and children does not receive the emphasis which it should. The work will be of value to medical students, especially those in pediatrics. The authors are on the staff of the University of Minnesota Department of Radiology, and all very competent in their field.

L. H. Garland, M.B.

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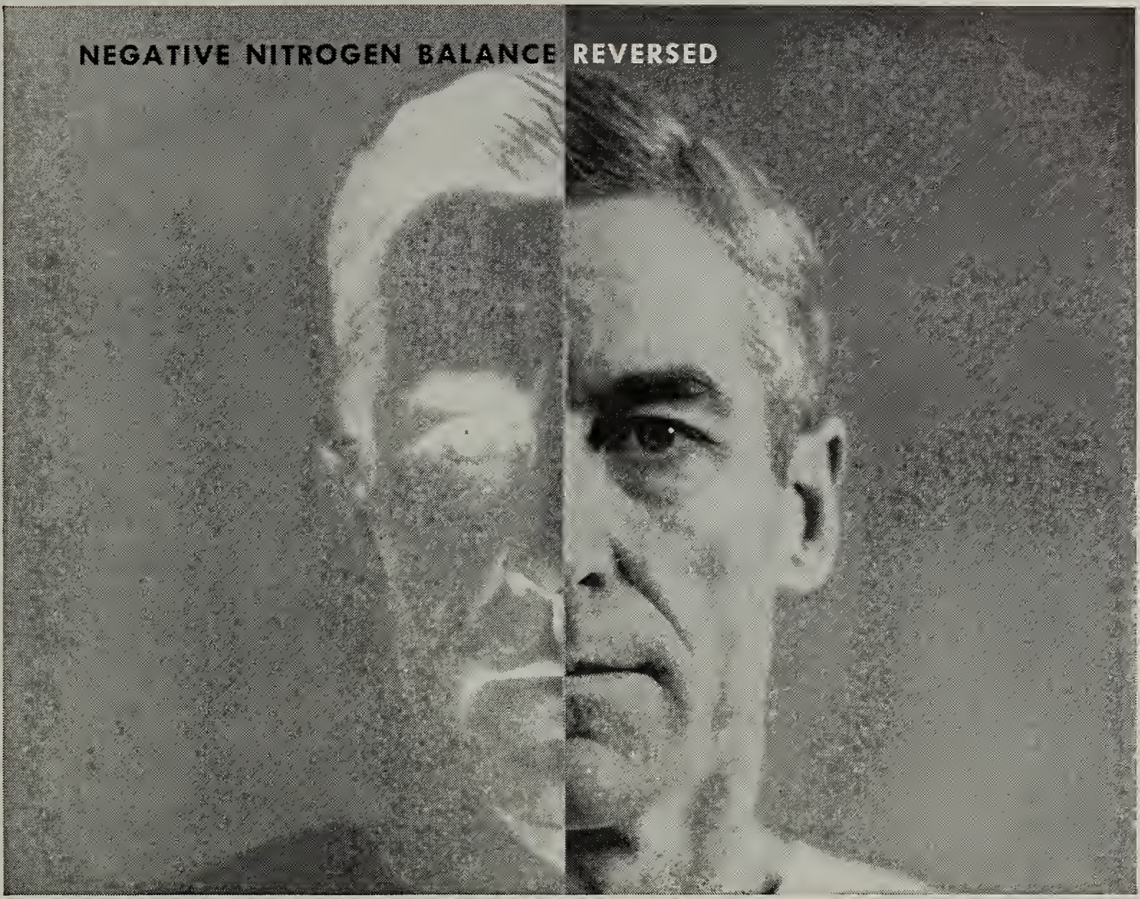
DYNAMIC PSYCHIATRY IN SIMPLE TERMS—Robert R. Mexer, M.D., Senior Staff Psychiatrist, Community Clinic, Massachusetts Mental Health Center and Harvard Medical School. Springer Publishing Company, Inc., 44 East 23rd St., New York 10, N. Y., 1956. 174 pages, $2.50.

The growing interest in the application of psychologic knowledge in general medical practice suggests a very real need for a book such as this one.

In general, it is felt that this book very well fulfills this need. Here is presented briefly but clearly a concept of personality development which is followed by descriptions of the various psychiatric disorders in the light of this theory. The valuable material on meeting the psychiatric patient, as well as a concluding chapter on "The Normal Life," add to the value of the book.

Unquestionably, there are psychiatrists who would differ with individual parts of the book. In the main, however, the outline of development, the classification of illnesses and recommendations for care of the patient are those that are in common use today. Perhaps most importantly, the suggestions for dealing with various symptom combinations and illnesses are made most clear. It is in this area that the individual practitioner will find the book of value. It is important, however, to remember that treatment in psychiatric conditions depends as much on good knowledge of personality structure and psychopathology, as general medicine does on physiology and general pathology. This book does a real service by bringing all of these factors together in an organized and clear fashion.

Henry H. Work, M.D.



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stimulates protein synthesis,
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The suggested adult dosage is three to five tablets (30 to 50 mg.) daily. For children 1.5 mg. per kilogram of weight is recommended.

G. D. Searle & Co., Chicago 80, Illinois. Research in the Service of Medicine.

---

[1] Axelrod, A. E.; Beaton, J. R.; Cannon, P. R., and others: Symposium on Protein Metabolism, New York, The National Vitamin Foundation, Incorporated, (March) 1954, p. 100.

[2] Proceedings of a Conference on the Clinical Use of Anabolic Agents, Chicago, Illinois, G. D. Searle & Co., April 9, 1956, pp. 32-35.

SEARLE

Statement on Financing of the Hospital Needs of the Retired Aged

(Continued from Front Advertising Section, Page 46)

subsidy approach was no longer a satisfactory one for the following reasons:

(a) The improbability of obtaining enough federal and state funds to meet the problem in any significant degree due to present budgetary restrictions of the federal government and opposition to the establishment of any new federal grant problems.

(b) The probability that this approach would necessitate the imposition of a means test, unacceptable to many.

(c) The real possibility that the program would lead to interference with hospital operations.

The American Hospital Association believes that the Forand Bill (H.R. 9467) is not a suitable solution to the problem of financing the hospital needs of the retired aged. Among its major objections to the Forand Bill are the following:

(a) Eligibility of aged beneficiaries is based on attainment of prescribed ages without regard to their employment status and thus invites a progressive reduction of these age levels with the ultimate possibility of a total program of government financed hospital care.

(Continued on Page 56)

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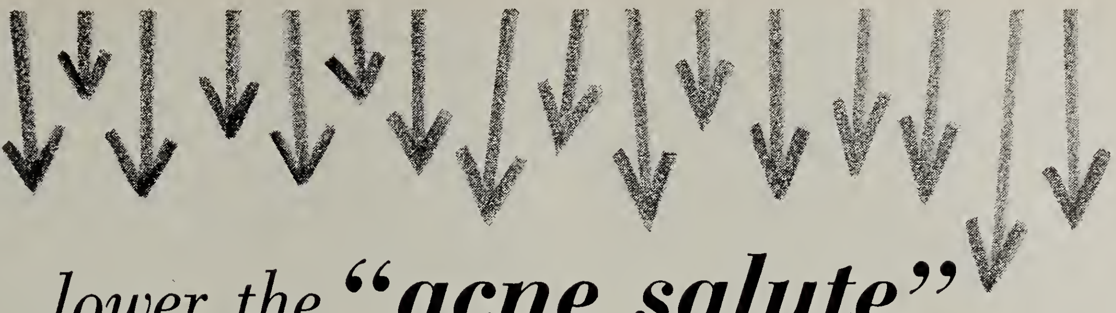

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Lotion: contains resorcin 4%; sulfur 8%; zinc oxide 25%; talcum; iron oxides; bentonite; glycerin; oil of lavender; isopropyl alcohol 30% by volume; and water. pH 6.4

Lotion Modified: (½ strength): contains resorcin 2%; sulfur 4%; zinc oxide 27%; talcum; iron oxides; bentonite; glycerin; oil of lavender; alcohol 32% by volume; water. pH 7.7

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Soap (with Salicylic Acid): contains resorcin 3%; salicylic acid 3%; sulfur USP 9%; in a mild soap base. pH 8.1

Statement on Financing of the Hospital Needs of the Retired Aged

(Continued from Page 52)

(b) The bill makes possible the provision of care for other than health reasons.

(c) The bill provides inadequate safeguards against governmental interference with the actual operation of hospitals. Such interference would most likely hamper evolution of patterns of hospital service to the detriment of patient care.

In summary:

1. The American Hospital Association is convinced that retired aged persons face a pressing problem in financing their hospital care.

2. It believes that federal legislation will be necessary to solve the problem satisfactorily. It has, however, serious misgivings with respect to the use of compulsory health insurance for financing hospital care even for the retired aged.

3. It believes that all possible solutions must be vigorously explored including methods by which the dangers inherent in the Social Security approach can be avoided.

4. It believes that the use of Social Security to provide the mechanism to assist in the solution of the problem of financing the hospital needs of the retired aged may be necessary ultimately. However,

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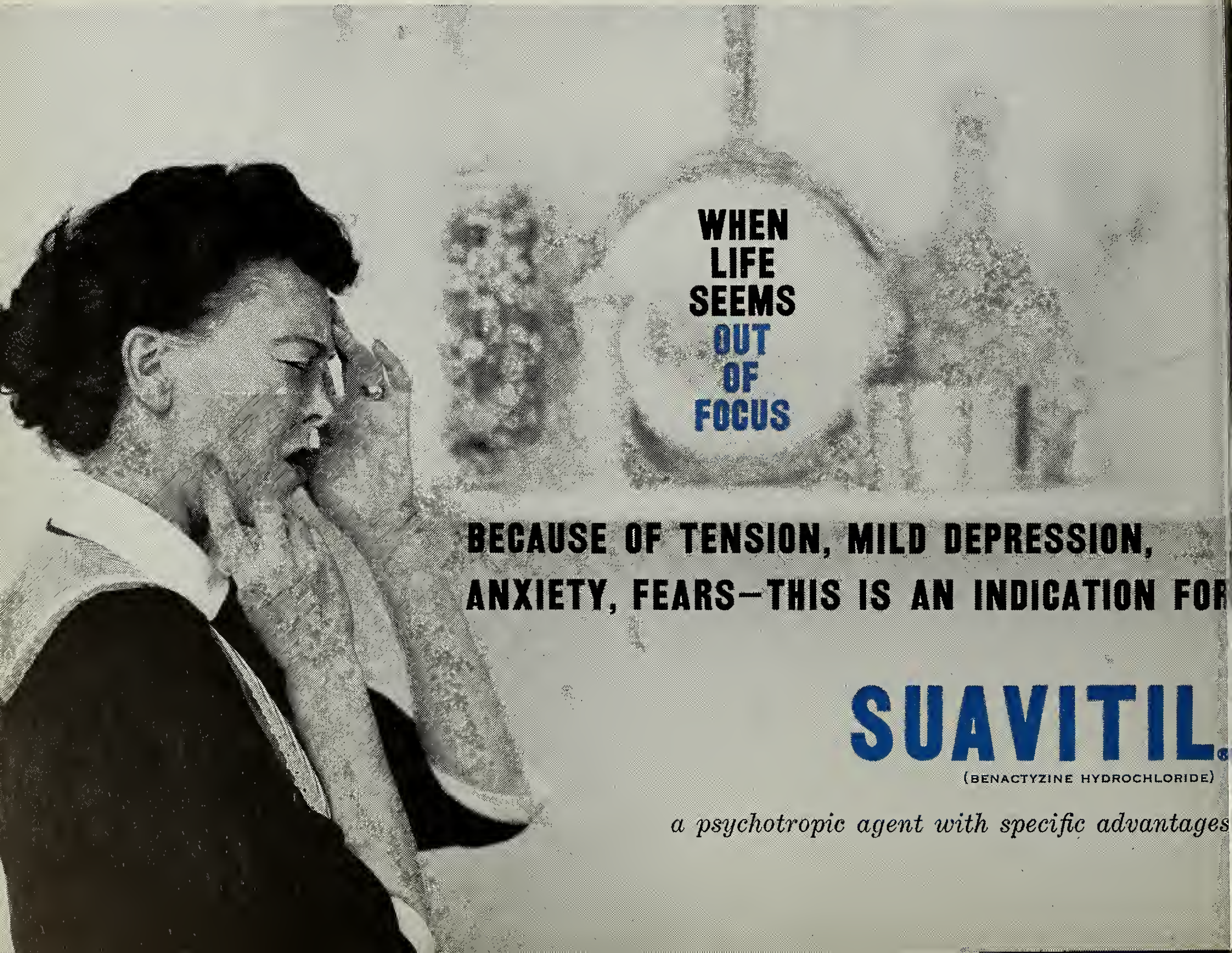
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a psychotropic agent with specific advantages

it believes that every realistic effort should first be made to meet these needs promptly through other mechanisms utilizing existing systems of voluntary prepayment.

Two-month-old Babies Need Polio Shots

Polio shots for infants as young as two months have been recommended in a guest editorial in the January 11 issue of the *Journal of the American Medical Association.*

At present shots are generally begun at six months of age. However, several groups of researchers have found that many infants lose the immunity with which they are born before they reach six months.

Dr. Lauri D. Thrupp, chief of the poliomyelitis surveillance unit of the U. S. Public Health Service's Communicable Disease Center, Atlanta, Georgia, said the American Academy of Pediatrics has recommended beginning the shots at two months. The third shot should follow the first two by at least six or seven months.

During 1956, attack rates of paralytic polio were highest in one-year-old children and the largest proportion of cases occurred in the under-five-year age group, Dr. Thrupp said. Preliminary data for 1957 indicate that a comparably high proportion of paralytic cases is occurring in pre-school-age children.

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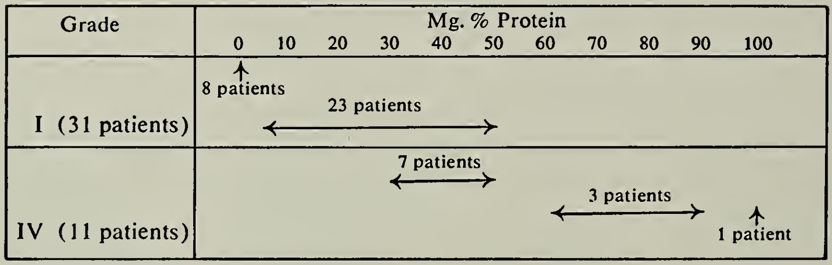
Source—Race, G. A.; Scheifley, C. H., and Edwards, J. E.: Circulation *13*:329, 1956.

Proteinuria In Cardiac Failure



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1. Levy, S., *JAMA.*, 153:1260, 1953
2. Thompson, L., Procter R., *North Carolina M. J.*, 15:596, 1954
3. Thompson, L., Procter, R., *Clin. Med.*, 3:325, 1956

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New American Medical Association General Manager

A realignment of executive duties at the American Medical Association went into effect January 1. Dr. George F. Lull took over the position of assistant to the president. Dr. F. J. L. Blasingame of Wharton, Texas, assumed responsibility for over-all administration with the title of general manager.

Dr. Blasingame has been active in medical affairs, both at the state and national levels, for many years. Since 1949, he has been a member of the American Medical Association Board of Trustees, and in 1955 he served as president of the Texas State Medical Association.

In his new job, Dr. Lull will relieve the president of many of the burdens of that office in addition to serving as secretary of the Association. He will act as a special ambassador of the medical profession in cities and towns throughout the country. Dr. Lull joined the American Medical Association staff in 1946 after serving 34 years in the Army. His last position before Army retirement was as deputy surgeon general.

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CLASSIFIED ADVERTISEMENTS

(Continued from Front Advertising Section, Page 40)

PHYSICIANS WANTED *(Continued)*

MEDICAL DIRECTOR—At least two (2) years experience in pulmonary diseases. Sanatorium located in central California Sierra foothills. Five-day week, completely furnished house for family, income tax free. Appointment available July 1. Present incumbent retiring. California license required. Send photograph with application. D. O. N. Lindberg, M.D., Medical Director, Ahwahnee Sanatorium, Ahwahnee, California.

MEDICAL STAFF PHYSICIAN: Needed to add to present staff at the Solano County Hospital, 85 patients, good opportunity to gain or use medical, surgical, or OB experience. Salary open. California license required. Located in Fairfield—48 miles from San Francisco, in a moderate climate. Contact George Lockard, Administrator, Box 1037, or telephone HArrison 5-4651.

GROUP OF 14 SPECIALISTS, now expanding, desires to add the following to its staff: Neurosurgeon, Neuropsychiatrist, Urologist, Dermatologist, Allergist, Ophthalmologist, or E.E.N.T. Contact J. A. Woodruff, Gallatin Medical Group, 10720 South Paramount Boulevard, Downey, California.

AT EARLIEST POSSIBLE DATE, certified or Board eligible Orthopedist for established industrial practice, Central California. Send full information with first letter. Box 93,885, California Medicine.

A SMALL—65-BED, non-profit community hospital is seeking the services of a fulltime resident Pathologist. Prefer Board man. Also to take over Clinical Laboratory. No other pathologist in county. Small town of approximately 85,000 people, close to San Francisco. Ideal weather conditions. Excellent opportunity. Box 94,015, California Medicine.

PHYSICIANS—A permanent civil service position for Physician I is immediately available in the San Diego County Department of Public Health. This full-time position (40 hours a week) has an entrance rate of $713 a month, increases to $749 after six months and reaches a maximum of $786 after 18 months of service. Write San Diego County Civil Service, 403 Civic Center for details.

RESIDENT AND STAFF PHYSICIAN for California approved accredited bi-county hospital, pulmonary diseases, 219 beds, rehabilitation chronic illness, 30 beds. Starting salary $600 monthly, includes furnished modern home for family. Must be eligible California licensure. Write: Medical Director, Tulare-Kings Counties Hospital, Springville, California.

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WE HAVE IMMEDIATELY AVAILABLE for your staff—GENERAL PRACTITIONERS and SPECIALISTS, as well as EXPERIENCED MEDICAL SECRETARIES and RECEPTIONISTS, REGISTERED NURSES, LABORATORY and X-RAY TECHNICIANS. Norma Rohl, Director, THE MEDICAL CENTER AGENCY, FLOOD BUILDING, SUITE 412-414, 870 Market Street, San Francisco 2. CALL YUkon 2-3412.

BOARD QUALIFIED ANESTHESIOLOGIST, 33, married, four children, desire solo or group practice, will consider all locations, particularly interested in pleasant working conditions. Living conditions equally important, and area must have Catholic schools for children. Available July at latest, possibly sooner. Contact John J. Cashman, M.D., 7426 Seventh Avenue, Brooklyn 9, New York.

DERMATOLOGIST, 33, board certified, family, military service completed, desires association with group or individual. Available June, 1958. Box 94,005, California Medicine.

PHYSICIAN, 35, experienced general medicine and chest diseases, California license, wishes association with Internist, group, clinic, or hospital. Box 94,000, California Medicine.

GENERAL PRACTITIONER—Main interest surgery. Age 45. 20 years practice Middle West. Desires relocation in California. Association or purchase of active practice. California licensed. Box 92,125, California Medicine.

GENERAL PRACTITIONER with training in surgery. Age 41, 10 years experience in Iowa. California licensed. Desires association. Community under 20,000 population desired. Box 93,895, California Medicine.

(Continued on Page 74)

One Drug Found to Treat Five Intestinal Parasites

A single drug has been found to be effective against five different types of human worm infestation, a group of southern researchers have reported.

Writing in the December 21 *Journal of the American Medical Association,* they called the drug dithiazanine a "broad-spectrum anthelmintic." Its action against various human intestinal parasites might be likened to that of the "broad-spectrum antibiotics" which work against several bacteria.

The amount of human parasitism by helminths throughout the world is immense. The numbers of infections in millions are 355 for Trichuris trichiura, whipworm; 35 for Strongyloides stercoralis, a type of roundworm; 644 for Ascaris lumbricoides, another roundworm; 208 for Enterobius vermicularis, pinworm, and 456 for hookworm.

"Any improvement in treatment for these infections has practical significance since it may contribute to the health and productivity of the parasitized people of the world," the authors said.

They first used dithiazanine against whipworms. Not only was it effective in reducing whipworm infections, but it also worked against simultaneous infections with Ascaris lumbricoides.

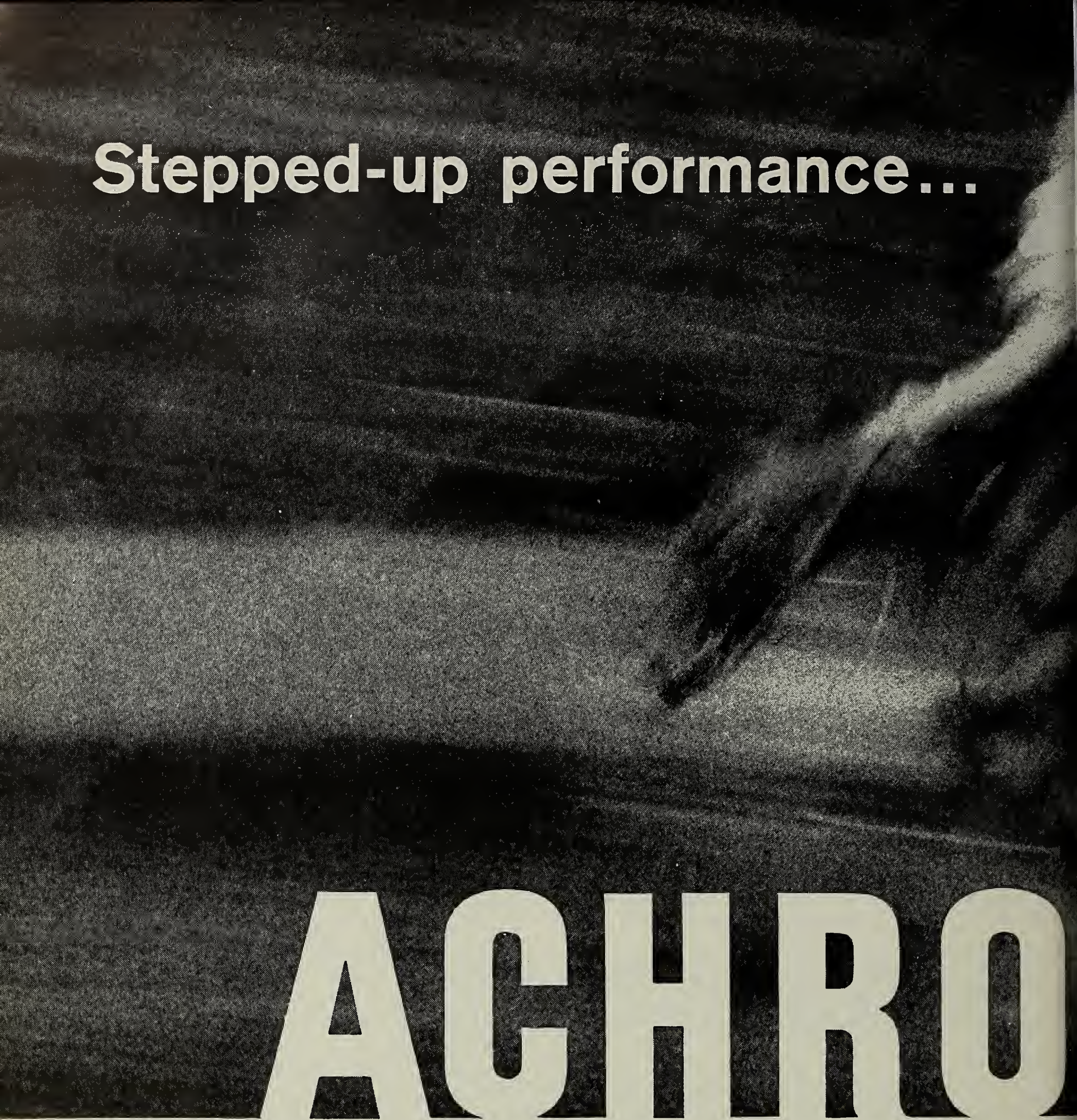
Eventually they found it effective against strongyloidiasis and enterobiasis. It was also effective against mild hookworm infections. The development of the drug as a treatment for whipworm and Strongyloides stercoralis is especially important, the authors said, since previously there have been no proved effective and practical treatments for them.

The fact that it will work against mixed infections is also important, as is its effectiveness as a mass outpatient treatment method for whipworm infection.

The drug is a blue powder which is insoluble in water. Because it is not absorbed readily from the stomach, it is administered in tablets designed to delay release of the compound until after passage through the stomach. Its side-effects are few. Treatment for the various infections varies in length from three to 21 days, the authors said.

The study, conducted among more than 400 persons, was supported in part by the National Institute of Allergy and Infectious Diseases of the National Institutes of Health, United States Public Health Service.

The authors are J. Clyde Swartzwelder, Ph.D., William W. Frye, M.D., John P. Muhleisen, M.D., and Joseph H. Miller, Ph.D., New Orleans; Ralph Lampert, M.D., Alexandria, La.; Antonio Pena Chavarria, M.D., San Jose, Costa Rica; Stanley H. Abadie, B.S., New Orleans; Samuel O. Anthony, M.D., Alexandria, Louisiana, and Robert W. Sappenfield, M.D., New Orleans.



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Auxiliaries Vie in "Today's Health" Contest

The annual *Today's Health* subscription contest for medical auxiliaries throughout the country again is underway. The contest—jointly sponsored by the Woman's Auxiliary to the A.M.A. and *Today's Health* magazine—is open to all state and county auxiliaries. A total of $480 in cash prizes will be awarded to the winning state and county groups. The contest closes April 30, and winners will be announced at a special honor breakfast during the Woman's Auxiliary national convention in June in San Francisco.

American Medical Association Offers More Medical Practice Booklets

Additional copies of the booklet—"A Planning Guide for Establishing Medical Practice Units"—currently are available from the American Medical Association to state and county medical societies for use on a loan basis to individual physicians. Edited by the A.M.A. and published through a Sears-Roebuck Foundation grant, this booklet originally was distributed to medical societies on a limited basis. Requests for additional copies may now be filled. Requests should be directed to the A.M.A.'s Council on Medical Service.

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The recommended adult dose is 1 Gm. (2 tablets or 4 teaspoonfuls of syrup) the first day, followed by 0.5 Gm. (1 tablet or 2 teaspoonfuls of syrup) every day thereafter, or 1 Gm. every other day for mild to moderate infections. In severe infections where prompt, high blood levels are indicated, the initial dose should be 2 Gm. followed by 0.5 Gm. every 24 hours. Dosage in children, according to weight; i.e., a 40 lb. child should receive ¼ of the adult dosage. It is recommended that these dosages not be exceeded.

Tablets:

Each tablet contains 0.5 Gm. (7½ grains) of sulfamethoxypyridazine. Bottles of 24 and 100 tablets.

Syrup:

Each teaspoonful (5 cc.) of caramel-flavored syrup contains 250 mg. of sulfamethoxypyridazine. Bottle of 4 fl. oz.

[1] Nichols, R. L. and Finland, M.: J. Clin. Med. 49:410, 1957.

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CLASSIFIED ADVERTISEMENTS

(Continued from Page 65)

SITUATIONS WANTED *(Continued)*

WOMAN OBSTETRICIAN—30 years old, wishes to associate with Obstetrician-Gynecologist or General Practitioner in the San Francisco or Peninsula Area, commencing July 1, 1958. Box 94,030, California Medicine.

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OBSTETRICIAN-GYNECOLOGIST, 37 years, family, Board eligible, military obligations completed. No contraceptive work done. Excellent references. Prefer association or partnership type of practice; will consider group practice. Have had some private experience. Box 94,010, California Medicine.

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SURGEON, 37, BOARD CERTIFIED, 5½ years training University Hospital and large clinic in East. Experienced general thoracic and traumatic surgery, desires association with individual, group or clinic. Willing to do some general practice. Will also consider full-time or part-time active surgical hospital position. California licensed. Box 93,840, California Medicine.

UROLOGIST—age 33. Board-eligible. Four years university residency plus four years practice. Army obligation completed. Desires California location with group or another Urologist. Will consider good area for solo-type practice. Available immediately. Box 93,845, California Medicine.

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(Continued on Page 84)

Many Medical Discoveries Are "Happy Accidents"

Most "accident-prone" individuals are considered a liability in their work, but there are some "happy accident-prone" people who are pretty important.

They're the researchers, scientists, and doctors who accidentally discover some important thing while looking for something else, according to a special article in the December 21 *Journal of the American Medical Association.*

Among the most famous of medicine's "happy accidents" are Fleming's discovery of penicillin when he left a Petri dish uncovered and van Leeuwenhoek's discovery of bacteria when he focused a magnifying glass on a drop of water instead of on a fly's leg. Out of these grew the "penicillin age" and the science of bacteriology.

This ability to make some valuable or pleasant discovery without deliberately looking for it is called serendipity.

The most recent serendipitous event to make headlines was Dr. Winston H. Price's discovery of a common cold vaccine. This researcher at the Johns Hopkins School of Hygiene and Public Health was not looking for a common cold preventive, but was working on isolating influenza viruses.

While he and his associates had unintentionally isolated a cold virus, it took a high degree of perception, combined with thorough laboratory technique to recognize the finding, verify it, and make the vaccine, the article said.

"Discoveries made by accident are never pure luck," the article quoted Dr. Robert Stormont, director of the A.M.A. Division of Councils on Therapy and Research, as saying. "They come about only because the men who make them are alert enough to fathom their usefulness."

Some of medicine's happy accidents include:

—The conquest of smallpox after Edward Jenner recalled the boast of a former milkmaid that she was immune because she had had cowpox—which then became the agent for mass immunity against smallpox.

—The development of the stethoscope after a Paris physician, Rene Theophile Laennec, saw children tapping messages to each other along opposite ends of a discarded plank. He recognized in the game the principle of the stethoscope.

—The discovery of saccharine when a chemist forgot to wash his hands before lunch. Having just worked with a strange chemical, he wondered about the sugary taste of his roast beef sandwich.

Serendipity occurs in medical practice as well as in the laboratory. For instance, many a family physician, checking a patient's minor ailment finds evi-

(Continued on Page 78)

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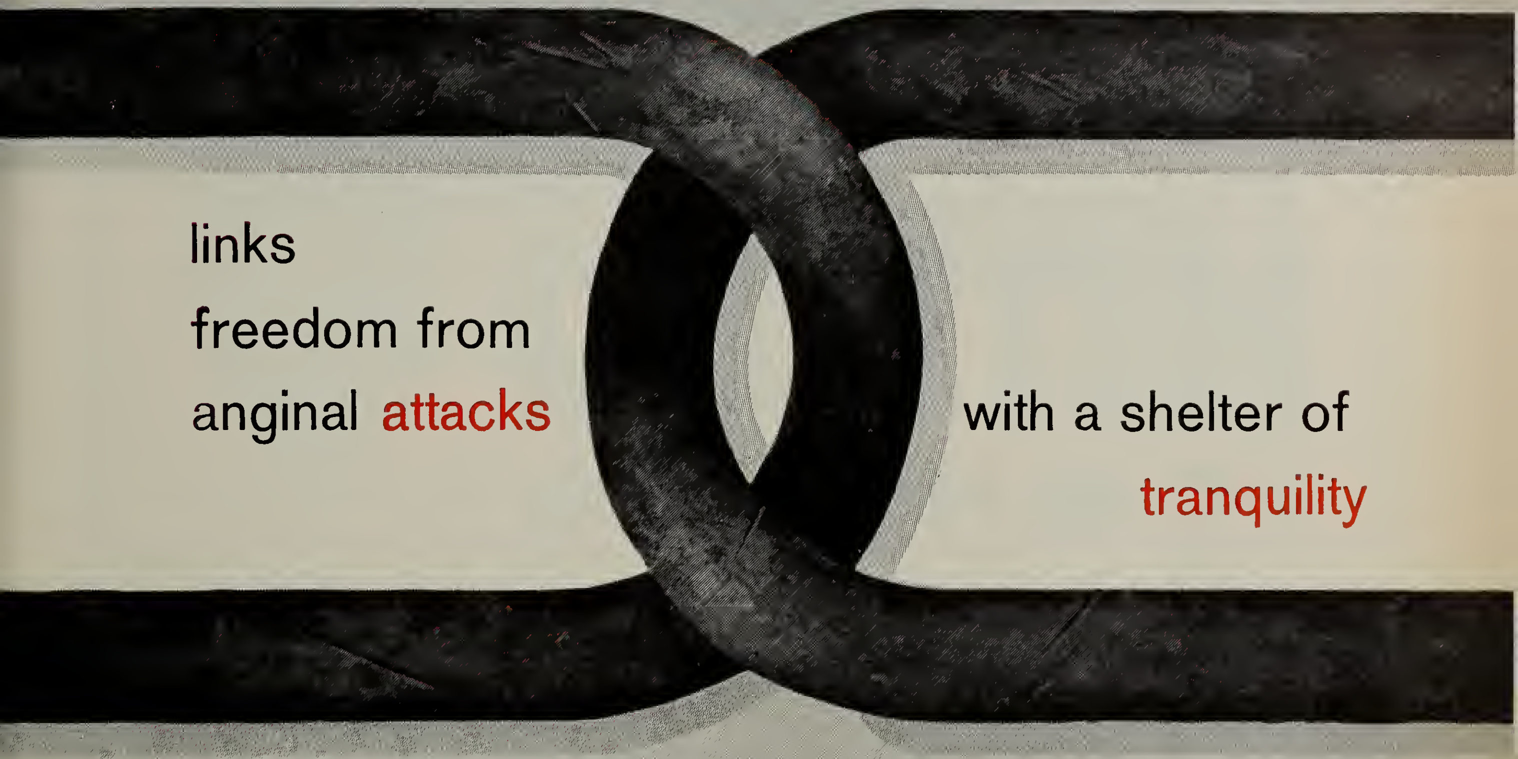

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"Cardiac patients who show significant manifestations of anxiety should receive ataractic treatment as part of the therapeutic approach to the cardiac problem."[1]

[1] Waldman, S., and Pelner, L.: Am. Pract. & Digest Treat. *8*:1075 (July) 1957.
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Many Medical Discoveries Are "Happy Accidents"

(Continued from Page 74)

dence of an unrelated serious disorder that can be treated in an early stage.

In another article in the same *Journal*, Dr. Edward L. Compere, a Chicago orthopedic surgeon, illustrated serendipity's role in medical practice when he said, "much of what I have learned . . . has been with little effort on my part and not the result of intensive investigation or of delving into medical and scientific literature.

"New ideas have been handed to me by nurses, medical students, interns, and residents. The sum total of what I know or believe about orthopedic surgery includes many things which came to me because I seem to have the good fortune to possess 'the gift of finding valuable or agreeable things not sought for.' "

Whether it occurs in medical research or in medical practice, serendipity must have a substantial part of its mechanism embedded in the physician's total education, according to an accompanying *Journal* editorial.

Serendipity may become a "vast tappable human

(Continued on Page 94)

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(Continued from Page 74)

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(Continued on Page 98)

Tissue Storage of Metals Precedes Cancer Growth

Accumulation of specific metals in the tissues of patients with cancer appears to occur before the cancer develops rather than afterwards, a group of midwestern researchers have stated.

Some researchers have thought high concentration of trace amounts of metals are due to a secondary storage following the development of cancer.

The present study, however, suggested that the increase occurs prior to the growth of the tumor, because the researchers found an increased amount of metal in the lungs, kidneys, and liver, as well as in the tissues in which the cancer was primary.

Also suggesting a storage prior to the disease is the fact that the cancer tissues themselves have a much smaller amount of these metals than has the surrounding tissue, the researchers said in the December 28 *Journal of the American Medical Association.*

While they drew no conclusions about whether these high concentrations of metals actually play a role in causing cancer, they did point out that the relationship between metals and cancer needs more study. They suggested that researchers in other geographical areas make similar studies to see how they compare with the Chicago study.

The metals are accumulated from food and air taken into the body.

Some metals and their compounds, even when present in large amounts in the tissues, are known to have no cancer-causing properties, but there are a number with real or suspected carcinogenic properties. These include arsenic, chromium, molybdenum, nickel, cobalt, aluminum, beryllium, cadmium, silver, selenium, zinc, and metals with radioactive properties.

The researchers studied tissues taken from patients with cancer, patients with inflammatory diseases of the lungs, those with other diseases, and from healthy persons. They identified the metals in the lung, liver, kidney, and cancer-site tissues by using a spectograph. This microscope-like instrument indicates the kind and amount of metal present on the basis of the colors emitted by the metals.

The elements commonly elevated or high in liver, lung, and kidney of patients with cancerous diseases were tin, iron, cadmium, chromium, silver and silicon. In addition, manganese and beryllium were also elevated in the liver, and molybdenum in the kidney, the authors said.

Chromium, found in elevated amounts in the lung tissue and especially in the liver of patients with cancerous diseases in other organs, is a known cancer-causing agent. Lead, beryllium, and silver are credited with similar properties. This action has not been established with manganese, molybdenum, cadmium, and silicon.

Patients with inflammatory lung diseases had ele-

(Continued on Page 94)

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With *topical* decongestants, "unfortunately, the period of decongestion is often followed by a phase of secondary reaction during which the congestion may be equal to, if not greater than, the original condition. . . ."* The patient then must reapply the medication and the vicious cycle is repeated, resulting in local overtreatment, pathological changes in nasal mucosa, and frequently "nose drop addiction."

Triaminic does not cause secondary congestion, eliminates local overtreatment and consequent nasal pathology.

*Morrison, L. F.: Arch. Otolaryng. 59:48-53 (Jan.) 1954.

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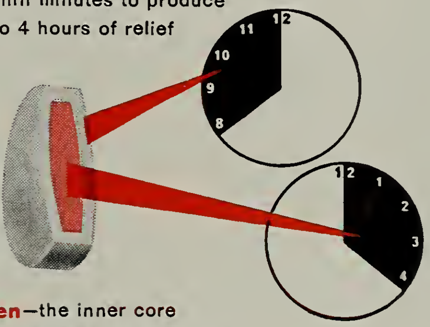

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Intent of Suicide Attempt Influences Treatment

The distinction between a suicide and an attempted suicide should be based on the intent rather than the outcome of the act, according to three Yale University psychiatrists.

They believe that an attempted suicide is not really an effort to die. Rather the person hopes to bring about a change in his life through the effect of the attempt on the people around him.

Even if the person killed himself, the act would still be an attempted suicide, because he had some "desired effect" other than death.

A suicide, according to the physicians, is an act in which the only "desired effect" is death. Although the person fails to kill himself, the act would still be a suicide because he desired only death.

The distinction between an attempted suicide and a suicide is useful in deciding how to treat persons who try to kill themselves, the physicians said in the January *Archives of Psychiatry and Neurology*, published by the American Medical Association.

They studied 44 persons brought to the New Haven, Connecticut, Hospital emergency room after they had attempted suicide.

Of these only eight had no "desired effect" from the attempt other than death. Seven of these were hospitalized, seven were diagnosed as psychotic and all eight were among the severer attempts (in the sense of place and method of the attempt).

For the other 36, some "desired effect" or change in their life situations could be found. For 34 of these, there were immediate changes in their lives which were brought about as a result of their attempting suicide. Only 11 of these were hospitalized for treatment. In studying these attempts, the physicians sought information about where the patient made the attempt, whether he was alone, who discovered the attempt and how.

They found a characteristic sequence of events culminating in the achievement of the "desired effects." The patient was involved in a struggle with the persons important to him and sought changes in their attitudes or his relationships with them. After a crisis was reached in this struggle, the patient sought to effect these changes through a suicide attempt.

The attempts ranged in severity from one woman who faked an attempt to a man who drove 200 miles, locked himself in a hotel room and shot himself in the head. The first was obviously an attempt aimed at effecting a change in the family's attitude. The second was a suicide in that the man took every precaution to avoid being found and stopped by family or friends. He wanted only death.

The authors are Drs. Robert Rubenstein, Rafael Moses and Theodore Lidz of the department of psychiatry, Yale University School of Medicine, New Haven, Connecticut.

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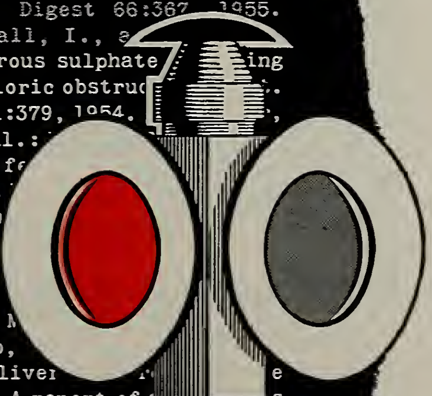

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a. Franklin, M.: To be published. b. Rohse, W. G., and Kemp, C. R.: A study of the relative toxicity of iron choline citrate. To be published.

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Tissue Storage of Metals Precedes Cancer Growth

(Continued from Page 84)

vated levels of several metals in the lung tissues. It has long been known that a relationship exists between chronic inflammation and tumor-formation. Should elements be selectively stored in inflammatory tissues, they could be a positive factor in the development of a cancerous growth, they said.

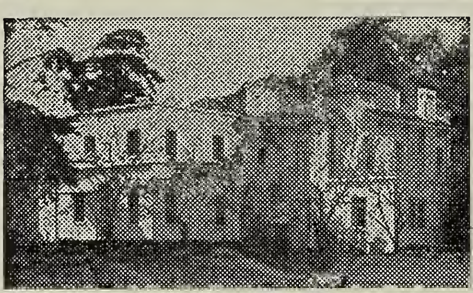
The authors, Norbert W. Tietz, Ph.D., Edwin F. Hirsch, M.D., and Benjamin Neyman, Ph.D., conducted the study at the Henry Baird Favill Laboratory, Presbyterian-St. Luke's Hospital, Chicago. Dr. Tietz is now at Reid Memorial Hospital, Richmond, Indiana.

Many Medical Discoveries Are "Happy Accidents"

(Continued from Page 78)

resource" if students are taught how to use it, the editorial added.

According to Dr. Edward Turner, secretary of the A.M.A. Council on Medical Education and Hospitals, who was quoted in the special article, medical education has already undertaken this task. Educational methods today come closer to inducing serendipity than ever before, he said. In medical school, the student is exposed to many phases of medicine. This helps increase his potential for recognizing situations that can help the whole patient.



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596	unsatisfactory	4.6%
427	side effects	3.3%

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(Continued from Page 84)

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American Medical Association Cites Physician Placement "Success Stories"

How a local Grange led a community-wide campaign to attract a doctor and how a state medical society promoted the services of its doctor placement service are constant reminders of the work being carried on throughout the country to match communities needing a doctor with physicians seeking a suitable place to practice medicine. Typical community success story which has been brought to the attention of the A.M.A.'s Placement Service recently is that of Windsor's Cross Roads, N. C.—population, 125 families.

Here the 30-member Grange organized a Community Development Organization to raise funds for a six-room medical clinic and encouraged Dr. Irvin G. Sherer and his wife to settle there after his discharge from the Navy. For its efforts in this project, the local Grange won the $1,000 first prize in the North Carolina State Grange Community Service Contest and placed fourth in the National Grange contest. All of the credit for this community's success goes to its citizens. The Medical Society of the State of North Carolina placement service simply sent Dr. Sherer a list of vacancies, and the citizens of Windsor's Cross Roads did the rest.

An example of how a state medical society promoted its doctor placement service is that of the Medical Association of the State of Alabama. A story last July in the *Birmingham News*—which later was written into the *Congressional Record*—points up the fact that 42 communities in the state need doctors and that young doctors oftentimes cannot afford to settle in small towns without some financial assistance. The article cites cases where communities have induced doctors to come to their areas by providing clinics, equipment or rent-free housing for the first years. In addition, the article explains how the placement service operates—emphasizing the fact that the society acts as a clearing house but that "it's up to the town and the doctor to get together."

Heart Beats Irregularly For 38 Years

The irregular beating of a person's heart at frequent intervals—or even constantly—doesn't mean he's going to have a heart attack and die.

In fact, one New Yorker's heart beat irregularly for 38 years before he suddenly died at the age of 94, "having been most active until the very last moment," a New York doctor has reported.

He was suffering from auricular fibrillation, which is a convulsive movement of the upper chambers of the heart. His was the familial type.

He was one of 22 members of the same family, all of whom had auricular fibrillation. The family's history, covering 36 years and 113 members of five generations, was outlined by Dr. William L. Gould, Albany, N. Y., in the December issue of *Archives of Internal Medicine*, published by the American Medical Association.

The first two cases occurred in a stepbrother and a stepsister. Eight members of the second generation who lived to the sixth decade or beyond all developed auricular fibrillation. In the third generation, 11 cases have already developed and more may appear from time to time, Dr. Gould said.

Only one case has appeared in the fourth generation—in a 32-year-old man, who is the youngest one to have the condition. So far the fifth generation is too young to show signs of the disorder.

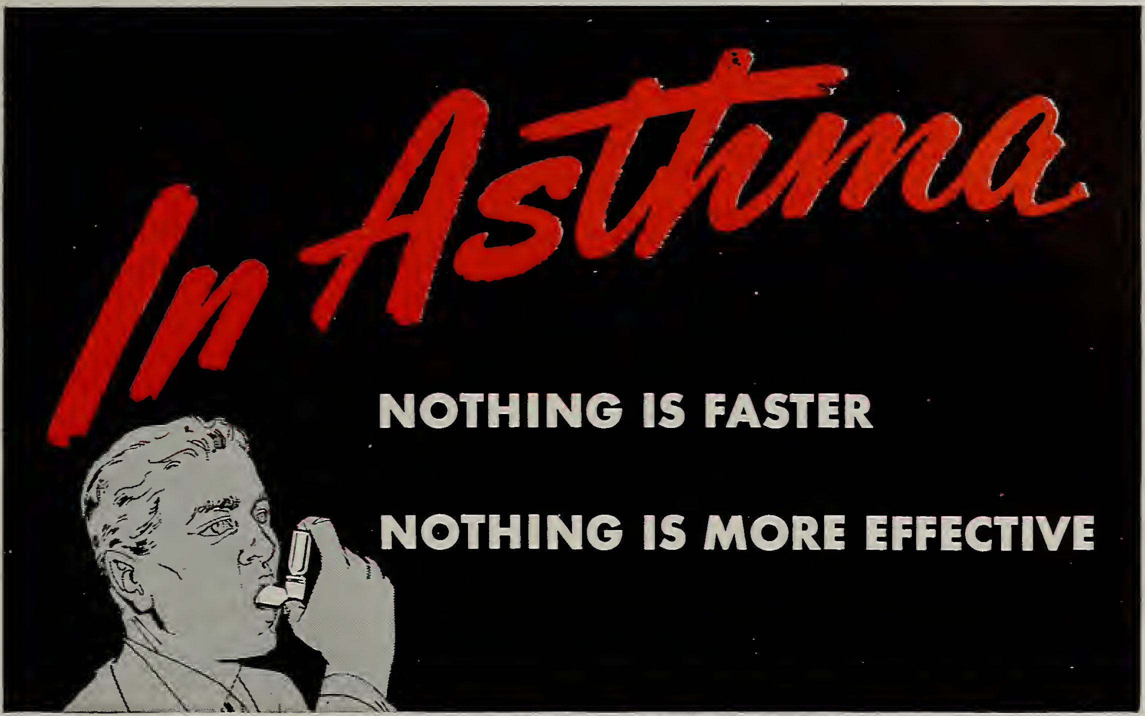
The usual symptoms of paroxysmal auricular fibrillation are palpitation, irregular beat, "the heart in the mouth" feeling, weakness, dizziness, faintness, and cold sweat. They present many problems of diagnosis, since they usually disappear before a physician can arrive and make a diagnosis.

When the fibrillation becomes perpetual, the diagnosis is simplified, even though the physical symptoms usually disappear, since the electrocardiogram will readily show the irregular beat.

A family history of similar occurrences may help in diagnosing paroxysmal cases. Treatment is generally very simple. Posture changes sometimes help during the attacks. When drugs are needed, barbiturates are better than digitalis, quinidine or nitroglycerin, which are usually given in ordinary auricular fibrillation, the author said.

The patient should continue his usual routine. He is not a "cardiac-failure patient"; in fact, familial auricular fibrillation does not even predispose the patient to cardiac failure. Only one person among the 113 studied died of a coronary attack, and he had had rheumatic fever in childhood. Even with perpetual fibrillations, most members of the family lived normally "to a ripe old age," Dr. Gould said.

His study is only the third to deal with familial auricular fibrillation. The others dealt respectively with three brothers and two brothers. Dr. Gould is chief of staff at the Jewish Home and Hospital for Aged, Troy, New York.



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Nutrition Plays No Role In Arthritic Process

There is no special diet for the treatment of arthritis, according to the American Medical Association's Council on Foods and Nutrition.

In a special report prepared for the council, Dr. William D. Robinson, Ann Arbor, Michigan, said joint diseases are "essentially diseases of the supporting structure of the body, the connective tissue." It is "extremely unlikely that the functioning of this tissue can be directly affected by dietary manipulation."

However, patients with diseases of the joints do need to pay attention to their diet, because of its effect on their general state of health, Dr. Robinson said.

Many diets and specific vitamins and minerals have been suggested for the treatment of arthritis, but research has failed to show any relationship between nutrition and the cause of most rheumatic diseases.

Gout is the only fairly common form of joint disease in which diet and the use of food by the body have been shown to affect the disease. Food allergy, high fat diets, and periods of fasting all precipitate gout attacks; therefore, patients need to watch their diets carefully.

Occasionally special diets are needed by persons with arthritis, even though they will have no effect on the disease itself. For instance, overweight patients often need to lose weight to reduce the load on the affected weight-bearing joints. Diets high in calories, proteins, vitamins, and minerals are sometimes necessary for patients who have lost weight and muscle tissue, a situation frequently encountered in rheumatoid arthritis.

Dr. Robinson noted that many forms of rheumatic disease are self-limiting, with a tendency to subside spontaneously after a varying length of time. Confusion of such conditions as bursitis or psychogenic rheumatism with various types of arthritis undoubtedly has been responsible for the claims of value for various diets and vitamins as treatments for arthritis.

Dietary treatment for the arthritic patient may be an important aspect of the total program of effective treatment, but such treatment "must be adapted to the general condition of the individual patient as well as to the type of rheumatic disease present," Dr. Robinson concluded.

Dr. Robinson is connected with the department of internal medicine and the Rackham Arthritis Research Unit of the University of Michigan. His report appeared in the January 18 issue of the *Journal of the American Medical Association.*

Surgeon Predicts Growth Of Children's Hospitals

A Chicago pediatric surgeon predicted recently that "in the not too distant future" most cities of more than 200,000 will have hospitals strictly for children.

Large cities will have more than one, Dr. Willis J. Potts, surgeon in chief, Children's Memorial Hospital, Chicago, said in the February 1 issue of the *Journal of the American Medical Association.*

The future of children's hospitals is bright, Dr. Potts said, "for the simple reason that pediatricians long have known and parents recently have become aware that refinements of child care are possible only where it is feasible to have specially trained personnel in all phases of children's care."

Every medical center of any size should have a children's hospital where the best in medical and surgical care is available from experienced men, he said. Parents should be able to come to such centers knowing that their children will receive the best care known at the time and that, if nothing can be done for their child, they can get advice about the future care of their child.

The hospitals can also serve as training centers for surgeons, anesthesiologists, nurses, and others who will deal with children. Special training is needed because of the size, psychology, and frailness of children.

Their very smallness presents many problems. For instance, the amount of anesthesia given during an operation is often based on the patient's size. The pediatric anesthesiologist must learn to give very small amounts of anesthesia.

The surgeon has to learn the "feather touch" and to avoid "the heavy hand that shakes the baby whenever the wound is sponged."

All physicians have to learn to explain to the frightened child that the needle may hurt, but it's necessary because he's sick, Dr. Potts pointed out. They have to learn what a certain cry from a baby means and have to understand that the baby can't explain where he hurts or that he is hungry.

The baby's inability to walk presents problems in taking chest x-rays. He can't stand in front of the machine as an adult does. So the baby is laid flat on a table, but being "unaccommodating" he won't lie flat on his back. "The x-ray pictures show a touch of Picasso in his darker moods," Dr. Potts said.

Individuals trained in the care of children can avoid some of these problems, or at least learn how to handle them. At the same time, children will be getting better care, he said.

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When tested in 72 patients with acute back pain involving muscle spasm, ROBAXIN induced marked relief in 59, moderate relief in 6, and slight relief in 3 – or an over-all beneficial effect in 94.4%.[1,3,4,6,7] No side effects occurred in 64 of the patients, and only slight side effects in 8. In studies of 129 patients, moderate or negligible side effects occurred in only 6.2%.[1,2,3,4,6,7]

WITH ROBAXIN IN ACUTE BACK PAIN[1,3,4,6,7]

NO. OF CASES	DURATION OF TREATMENT	DOSE PER DAY (divided)	RESPONSE marked	mod.	slight	neg.	SIDE EFFECTS
18	2-42 days	3-6 Gm.	17	1	0	0	None, 16 Dizziness, 1 Slight nausea, 1
13	1-42 days	2-6 Gm.	8	1	3	1	None, 12 Nervousness, 1
5	4-240 days	2.25-6 Gm.	4	1	0	0	None, 5
30	2-28 days	1.5-9 Gm.	24	3	0	3	None, 25 Dizziness, 1 Lightheadedness, 2 Nausea, 2 *
6	3-60 days	4-8 Gm.	6	0	0	0	None, 6
72			59	6	3	4	*Relieved on reduction of dose

References: 1. Carpenter, E. B.: Publication pending. 2. Carter, C. H.: Personal communication. 3. Forsyth, H. F.: Publication pending. 4. Freund, J.: Personal communication. 5. Morgan, A. M., Truitt, E. B., Jr., and Little, J. M.: American Pharm. Assn. 46:374, 1957. 6. Nachman, H. M.: Personal communication. 7. O'Doherty, D.: Publication pending. 8. Truitt, E. B., Jr., and Little, J. M.: J. Pharm. & Exper. Therap. 119:161, 1957.

Indications – Acute back pain associated with: (a) muscle spasm secondary to sprain; (b) muscle spasm due to trauma; (c) muscle spasm due to nerve irritation; (d) muscle spasm secondary to discogenic disease and postoperative orthopedic procedures; and miscellaneous conditions, such as bursitis, fibrositis, torticollis, etc.

Dosage – *Adults:* Two tablets 4 times daily to 3 tablets every 4 hours. Total daily dosage: 4 to 9 Gm. in divided doses.

Precautions – There are no specific contraindications to Robaxin and untoward reactions are not to be anticipated. Minor side effects such as lightheadedness, dizziness, nausea may occur rarely in patients with unusual sensitivity to drugs, but disappear on reduction of dosage. When therapy is prolonged routine white blood cell counts should be made since some decrease was noted in 3 patients out of a group of 72 who had received the drug for periods of 30 days or longer.

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Physician Gives Some Sound Facts About Snoring

Something can be done about snoring, a Chicago otolaryngologist recently stated.

Snoring is a "widespread complaint that afflicts only those who are not the patients" and only because they are "so unfortunate as to have good hearing," according to Dr. Noah D. Fabricant.

In fact, there are probably at least 21 million such afflicted people in the country, if it is assumed that the 21 million Americans who snore each disturb the sleep of one other person.

Writing in the January issue of *Today's Health,* the American Medical Association's health magazine, Dr. Fabricant said snoring is generated while breathing in or out during sleep by several structures in the nose and throat.

The sounds are due to vibrations in the soft palate and other structures of the throat in response to inflowing and outflowing air. Vibration occurs when the soft tissues of the mouth and throat come close to the lining of the throat.

"In short, snoring can be compared to the noise made when a breeze causes a flag to flutter on a pole," Dr. Fabricant said.

(Continued on Page 18)

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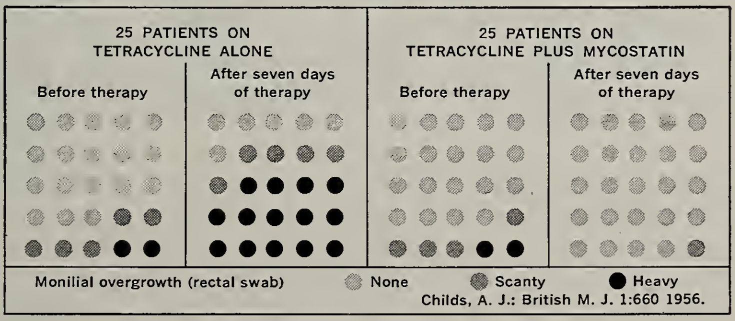

Childs, A. J.: British M. J. 1:660 1956.

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Fingerprints Can Be Removed By Surgical Technique

Fingerprints, always considered to be permanent and unalterable, can be completely removed by the surgical technique of skin planing, a New Orleans physician has stated.

Two Detroit physicians also reported that they have proved an assumption of law enforcement officials that prints of the second or dermal layer of skin can be used for identification purposes as well as those of the top layer or epidermis.

Their reports appeared in the January issue of *Archives of Dermatology*, an American Medical Association publication.

Dr. James W. Burks Jr., of the Tulane University School of Medicine division of dermatology, said his preliminary report has important legal implications because the possible removal of fingerprints makes positive identification by this means uncertain.

He treated two men with arsenic-caused horny growths on the hands by planing the skin with a high speed electric wire brush. At the same time, he planed a finger of each man, removing the epidermis and the upper part of the dermal layer. Skin planing is often used to remove scars from acne or smallpox.

Weeks after the planing, the fingers were smooth, slightly pinker, and without visible ridges. A hand lens showed the normal arrangements of whorls to be replaced by minute, thin, criss-crossed and parallel lines similar to those on the back surface of the web between the thumb and index finger.

Dr. Burks warned dermatologists that they must guard against treating criminals who seek to have their fingerprints removed. He added, however, that criminals who have this means of identification altered may still be recognized through "other equally satisfactory means." In fact, the "very absence" of ridge patterns on fingers could reflect an attempt to conceal identity. Dermatologists can help law enforcement officers in determining the medical reasons for a person's having planed fingers, he said.

The Detroit physicians, Drs. Harold Plotnick and Hermann Pinkus, ran an experiment on the similarity of epidermal and dermal fingerprints. Using recently amputated fingers, they first took prints of the epidermis. They then removed the epidermis and took prints of the dermis.

The two prints were identical except that the ridges of the dermal print appeared split or double, as well as finer than those of the epidermis. The dermal print is "just as effective for identification purposes," they said.

Their study resulted from an actual case in Boston in which Dr. Pinkus was asked by the police to

(Continued on Page 38)

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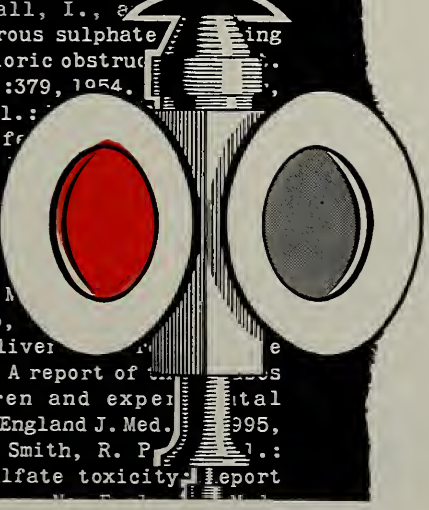

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a. Franklin, M.: To be published. b. Rohse, W. G., and Kemp, C. R.: A study of the relative toxicity of iron choline citrate. To be published.

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Physician Gives Some Sound Facts About Snoring

(Continued from Page 14)

Some of the ways in which it can be lessened and even cured are: Removal of tonsils and adenoids, especially in children who snore; surgical correction of deformities which block the nose; treatment of allergy or infection which blocks the nose, and removal of polyps, benign jelly-like masses hanging in the back of the nose.

Many snorers do so only when lying on their backs. Such a sleeper should be made to change the position of his head to prevent his tongue from falling back. One way of doing this is to make it uncomfortable for him to lie on his back—usually by sleeping with a small pillow under the nape of the neck.

It is possible "to draw two sound conclusions about snoring," Dr. Fabricant said.

"The first is that snoring is repressible, even curable, when a definite cause-and-effect relationship is discovered. Something can be done about it.

"The other conclusion is that the agonized listener, helplessly adrift on a sea of snores, can always wear ear plugs when everything else fails."

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*REFERENCE: J.A.M.A. 163: 359, 1957 (February 2)

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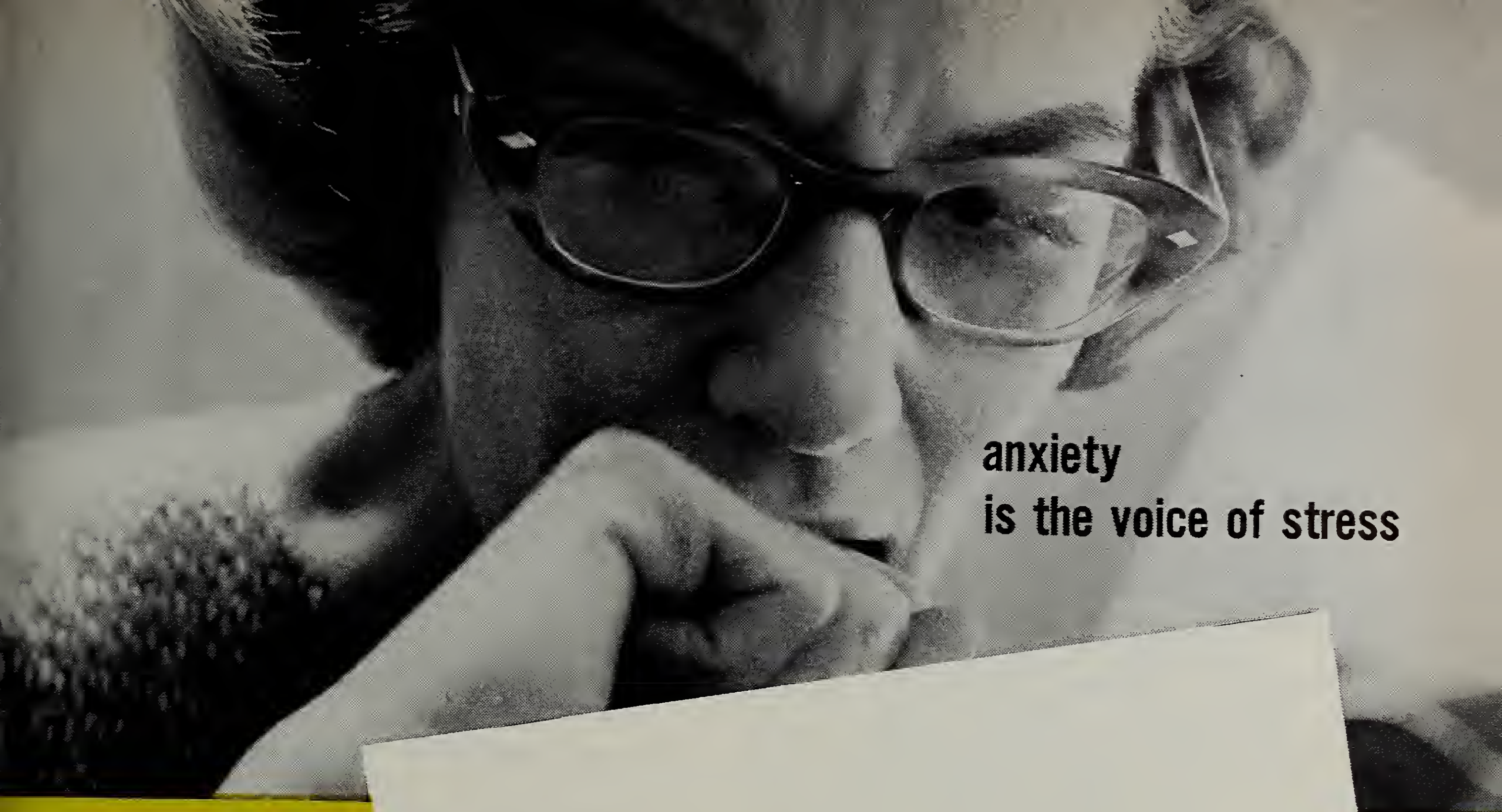
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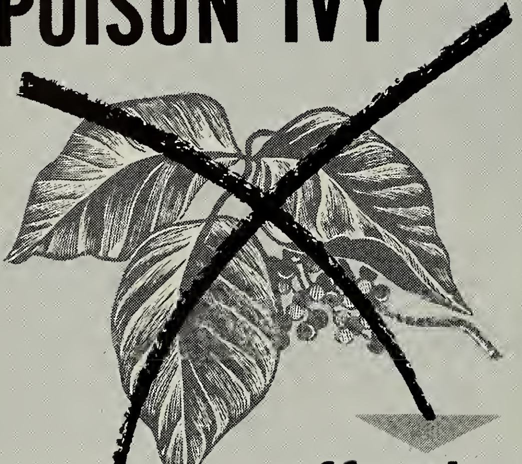

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Physicians Evaluate Health Needs In San Francisco

Mental health problems, especially alcoholism, rank as San Francisco's number one health problem, closely followed by care and rehabilitation of the chronically ill and disabled, and care of the aging, according to a recent questionnaire survey of physicians in the city. The survey is part of a broader 2-year study by the United Community Fund into community health needs and resources. Some 803 practicing physicians were queried as to their patients' need for services other than medical diagnosis and treatment, the agencies to which they referred patients, their estimate of the greatest unmet needs for care and rehabilitation and suggestions for meeting these needs, and their views on voluntary health insurance.

About 90 per cent of the doctors had some patients requiring some services other than they could provide. The major needs indicated were for psychiatric diagnosis and treatment, followed by physical therapy, financial aid, home nursing, long-term institutional care, and psychological testing and counseling.

Approximately 80 per cent of the doctors referred patients to voluntary or public health and welfare agencies for additional services; most frequently to the City Health Department, followed by the Visiting Nurse Association, psychiatric clinics, the Veterans Administration, State Employment Department, and voluntary family service agencies. Doctors thought the following diseases or conditions represented the greatest unmet needs for services in order of importance: Alcoholism, other mental illness or emotional disturbance, paralytic conditions including those from stroke, arthritis and rheumatism, cancer, and mental retardation, and cited a need for more chronic hospital facilities, nursing and convalescent homes, facilities for psychiatric diagnosis and treatment, expanded social and recreational opportunities for the Aging, homemaker services and home nursing. Regarding nursing homes in San Francisco, doctors' most frequent complaints were that they often cost more than patients could afford, that staffing, supervision or physical facilities were inadequate, poor food, and a lack of rehabilitation, recreational and other services in many.

Doctors cited the major barriers to rehabilitation as being not enough awareness of available resources on the part of both physicians and the public, lack of financial resources to secure rehabilitation, and poor awareness of the potential benefits of rehabilitation. They suggested more intensive edu-

(Continued on Page 46)

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NEW DOSAGE. The recommended adult dose is 1 Gm. (2 tablets or 4 teaspoonfuls of syrup) the first day, followed by 0.5 Gm. (1 tablet or 2 teaspoonfuls of syrup) every day thereafter, or 1 Gm. every other day for mild to moderate infections. In severe infections where prompt, high blood levels are indicated, the initial dose should be 2 Gm. followed by 0.5 Gm. every 24 hours. Dosage in children, according to weight; i.e., a 40 lb. child should receive ¼ of the adult dosage. It is recommended that these dosages not be exceeded.

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1. Nichols, R. L. and Finland, M.: J. Clin. Med. 49:410, 1957.

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California MEDICINE

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NEWLY FORMED CLINIC in San Francisco Bay Area desires association with ENT man. Partnership, salary, or rental space available. Box 94,075, California Medicine.

GENERAL PRACTITIONER WANTED, with strong interest in preventive medicine, for rural practice. Write: Richard Ricklefs, M.D., Community Health Association, Hoopa, California.

NEGRO PHYSICIAN wanted for thriving San Francisco-Oakland area. Office available in ranch type building, furnished and equipped. Long established practice serving 10,000 Negro population. Marco H. Goodman, M.D., 16378 East 14th Street, San Leandro, California. Telephone: BRowning 8-2222.

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AT EARLIEST POSSIBLE DATE, certified or Board eligible Orthopedist for established industrial practice, Central California. Send full information with first letter. Box 93,885, California Medicine.

ORTHOPEDIC SURGEON—Board Eligible—Opportunity now available for equal status association with Board Orthopedist in Southern California metropolis. Excellent practice opportunities in ample new offices. Hospitals are excellent with open staffs. Clinical teaching facilities are available. Living and cultural conditions pleasant. References, qualifications, date available. Box 94,105, California Medicine.

OTORHINOLARYNGOLOGIST wanted to associate with two Otorhinolaryngologists Northern California city. Two fully equipped separate offices. Clinic hospital practice potential. Salary-percentage contract. Personal-professional data required first letter. Box 94,040, California Medicine.

(Continued on Page 42)

Denver Physicians Study Asian Flu Deaths

Statistics uncovered by five Denver physicians shed new light on the seriousness of the Asian influenza epidemic which reached its peak last October.

The number of Denver deaths following influenza indicated that "there may be a higher mortality associated with this disease than previously believed," they said in the February 1 issue of the *Journal of the American Medical Association.*

They studied 23 deaths found at autopsy to be due to acute respiratory inflammation. The deaths occurred between October 3 and 17, 1957. Although these are "relatively few" deaths, their number is eight times greater than the number of respiratory disease-caused deaths usually seen in the Denver coroner's office for the month of October.

Commenting on the report, Dr. Harold C. Lueth, Evanston, Ill., chairman of the AMA special committee on influenza, paid tribute to American physicians and public health officials for preventing an even greater number of deaths.

"Through a nationwide educational campaign, the public was alerted to the potential dangers of the Asian influenza epidemic. Early vaccination prevented many cases of influenza, while early treatment of those cases that did occur undoubtedly prevented many cases of pneumonia," Dr. Lueth said.

Various types of pneumonia were associated with all the Denver deaths.

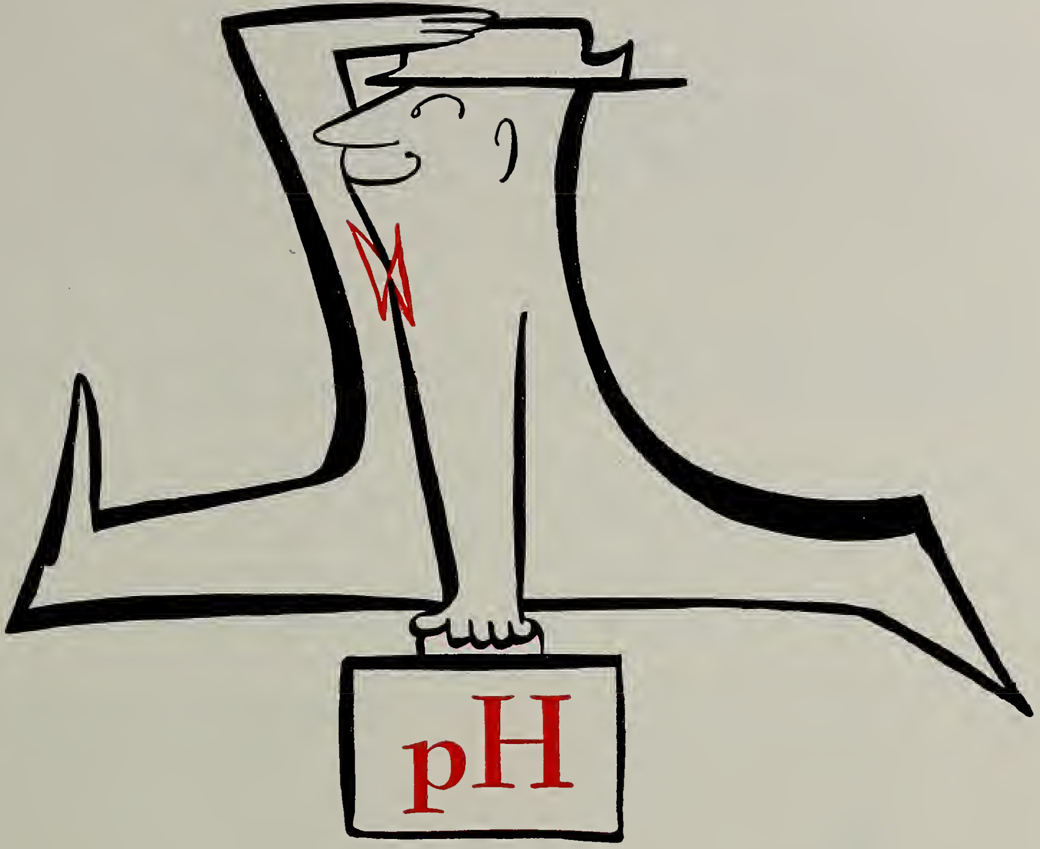
They were among 93 deaths reported in Colorado during October to be due to acute respiratory disease. During that month nearly 20,000 cases of influenza were reported in the state, excluding the city and county of Denver. Eleven million new cases of respiratory ailments were reported to the U. S. Public Health Service in each of the two middle weeks of October. By December, the rate had fallen to less than three million a week.

The study of the 23 "unexplained, unusual or unattended" deaths showed that the individuals died after a brief illness, ranging from one to seven days. Autopsy showed excessive inflammation of the larynx, trachea, and bronchus. In a few cases, the early symptoms suggested severe respiratory disease, but in most the symptoms were mild.

In 16 cases no treatment was given; in the others, it was of an unknown type or consisted of aspirin, cough syrup, or antibiotics.

The study bore out earlier predictions that Asian flu would be most dangerous to the elderly, the very young, and the chronically ill. Of the 23 deaths, seven were persons over 50 year of age; four infants less than three months old, and three children between five and ten years old.

(Continued on Page 50)



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Dose: One BepHan Spacetab® chewed morning
and evening.

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SANDOZ

New Theory Advanced On Speech Mechanism

Recent French research has indicated that the brain—not the movement of air in the larynx—causes the vocal cords to vibrate and produce sound.

This new and controversial theory of how man speaks was reported in the January issue of *Archives of Otolaryngology*, an American Medical Association publication, by Esti D. Freud, Ph.D., New York, a teacher of voice and speech pathology.

The French researchers believe that vocalization results from the action of the brain on the nerves of the larynx which in turn produce vibrations of the vocal cords.

According to long-accepted theory, expiration of air from the trachea causes the thyroarytenoid muscle to vibrate and thus set up vibrations of the vocal cords.

In a note preceding the article, Dr. Ernest M. Seydell, Wichita, Kansas, a member of the Archives editorial board, pointed out that some of the article's contents were "very controversial," but they were published with the hope of stimulating research in "a phase of otolaryngology in which there is much to be proved."

Dr. Freud said the French experiments have shown "beyond doubt," that vocal cords vibrate in the absence of an exhaled current of air, and that the vibrations seem to be governed by excitations deriving directly from the recurrent laryngeal nerve.

This means that the exhaled air current cannot be considered instrumental in creating the vibrations of the vocal cords, but only as a sound-carrying medium. The exact roles of air pressure, air volume, and the breathing motions in vocalization are questions that still must be answered, she said.

Dr. Freud also reported that French researchers have shown that singing and speaking, which produce different vibratory patterns in the vocal cords, originate in different centers of the brain, even though they are both executed by the vocal cords.

This helps explain why persons who stutter or who have lost their ability to speak can still sing without difficulty, Dr. Freud said. It also helps explain why a person with a tenor singing voice may speak with a very deep voice.

Dr. Freud, a daughter-in-law of the late Sigmund Freud, is associated with New York Hospital, New York, and a Veterans Administration mental hygiene clinic in Newark, New Jersey.

C.M.A. Annual Session

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STOP respiratory congestion orally

relief in minutes... lasts for hours

In the common cold, nasal allergies, sinusitis, and postnasal drip, one timed-release Triaminic tablet brings welcome relief of symptoms *in minutes.* Running noses stop, clogged noses open—and *stay* open for 6 to 8 hours. The patient can breathe again.

With *topical* decongestants, "unfortunately, the period of decongestion is often followed by a phase of secondary reaction during which the congestion may be equal to, if not greater than, the original condition. . . ."* The patient then must reapply the medication and the vicious cycle is repeated, resulting in local overtreatment, pathological changes in nasal mucosa, and frequently "nose drop addiction."

Triaminic does not cause secondary congestion, eliminates local overtreatment and consequent nasal pathology.

*Morrison, L. F.: Arch. Otolaryng. 59:48-53 (Jan.) 1954.

Each double-dose "timed-release" TRIAMINIC *Tablet contains:*

Phenylpropanolamine hydrochloride	50 mg.
Pyrilamine maleate	25 mg.
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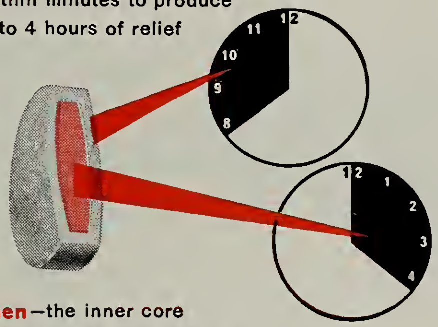
Each double-dose "timed-release" tablet keeps nasal passages clear for 6 to 8 hours—provides "around-the-clock" freedom from congestion on just three tablets a day

first—the outer layer dissolves within minutes to produce 3 to 4 hours of relief



then—the inner core disintegrates to give 3 to 4 more hours of relief

Dosage: 1 tablet in the morning, afternoon, and in the evening if needed.

Also available: Triaminic Syrup, for children and those adults who prefer a liquid medication.

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"timed-release" tablets

stop running noses... and open stuffed noses orally

SMITH-DORSEY • a division of The Wander Company • Lincoln, Nebraska • Peterborough, Canada

Fingerprints Can Be Removed By Surgical Technique

(Continued from Page 16)

explain the difference between epidermal and dermal fingerprints.

The police had found the body of a man and suspected that he had been murdered by his wife and dumped into the water. All the skin had come off the fingers, but prints were taken from the denuded dermal surfaces. It was up to the police to convince the jury of the identity of these prints with ordinary prints on file.

"They built up a nice case with the information, but the wife confessed just before the trial opened, so all the effort had been for nought," the physician said.

It did, however, lead to the study proving the validity of dermal prints as a means of identification.

C.M.A. Annual Session

PRESIDENT'S DINNER DANCE

TUESDAY, APRIL 29

Cocoanut Grove, Ambassador Hotel, 8:00 p.m.

Formal dress optional

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freedom from
anginal attacks

with a shelter of
tranquility

In pain. Anxious. Fearful. On the road to cardiac invalidism. These are the pathways of angina patients. For fear and pain are inexorably linked in the angina syndrome.

For angina patients—perhaps the next one who enters your office—won't you consider new CARTRAX? This doubly effective therapy combines PETN (pentaerythritol tetranitrate) for lasting vasodilation and ATARAX for peace of mind. Thus CARTRAX relieves not only the anginal pain but reduces the concomitant anxiety.

Dosage and supplied: begin with 1 to 2 yellow CARTRAX "10" tablets (10 mg. PETN plus 10 mg. ATARAX) 3 to 4 times daily. When indicated, this may be increased for more optimal effect by switching to pink CARTRAX "20" tablets (20 mg. PETN plus 10 mg. ATARAX.) For convenience, write "CARTRAX 10" or "CARTRAX 20." In bottles of 100. CARTRAX should be taken 30 to 60 minutes *before* meals, on a continuous dosage schedule. Use PETN preparations with caution in glaucoma.

"Cardiac patients who show significant manifestations of anxiety should receive ataractic treatment as part of the therapeutic approach to the cardiac problem."[1]

[1] Waldman, S., and Pelner, L.: Am. Pract. & Digest Treat. 8:1075 (July) 1957.

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New York 17, New York
Division, Chas. Pfizer & Co., Inc.

CLASSIFIED ADVERTISEMENTS

(Continued from Page 30)

PHYSICIANS WANTED *(Continued)*

WANTED: PEDIATRICIAN, Board eligible or certified, to share two-doctor office with well established Pediatrician in Covina, California. Office fully equipped and sharing of overhead expenses desired. Opportunity for rapid growth of practice excellent. Contact John F. Meyer, M.D., 131 West Dexter Street, Covina, California. EDgewood 9-6273.

SITUATIONS WANTED

PHYSICIAN, 35, experienced general medicine and chest diseases, California license, wishes association with Internist, group, clinic, or hospital. Box 94,000, California Medicine.

GENERAL PRACTITIONER—Main interest surgery. Age 45. 20 years practice Middle West. Desires relocation in California. Association or purchase of active practice. California licensed. Box 92,125, California Medicine.

GENERAL PRACTITIONER—California license, several years experience in successful private practice, desires to find location, or to purchase active practice, or association, Southern California, Coastal area, San Diego County preferred. Box 94,065, California Medicine.

BOARD CERTIFIED GENERAL SURGEON—Board Eligible Thoracic Surgeon—32, married, military obligation completed. Six and one-half years residency. Available July, 1958. Box 94,055, California Medicine.

HEMATOLOGIST-INTERNIST, 33, Board Qualified. 3 years hematology. 2½ years Internal Medicine, Isotope experience. Military obligations completed. Private practice experience. Box 94,085, California Medicine.

WE HAVE IMMEDIATELY AVAILABLE for your staff—GENERAL PRACTITIONERS and SPECIALISTS, as well as EXPERIENCED MEDICAL SECRETARIES and RECEPTIONISTS, REGISTERED NURSES, LABORATORY and X-RAY TECHNICIANS. Norma Rohl, Director, THE MEDICAL CENTER AGENCY, FLOOD BUILDING, SUITE 412-414, 870 Market Street, San Francisco 2. CALL YUkon 2-3412.

POSITION WANTED, INTERNIST with training in Metabolic Endocrine diseases, available now, training teaching hospital, solo or partnership. Prefer area that will need surgeon, wife will finish surgical residency in December, training teaching hospital. Box 94,080, California Medicine.

WOMAN OBSTETRICIAN—30 years old, wishes to associate with Obstetrician-Gynecologist or General Practitioner in the San Francisco or Peninsula Area, commencing July 1, 1958. Box 94,030, California Medicine.

SURGEON, 37, BOARD CERTIFIED, 5½ years training University Hospital and large clinic in East. Experienced general, thoracic, and traumatic surgery, desires association with individual, group or clinic. Willing to do some general practice. Will also consider full-time or part-time active surgical hospital position. California licensed. Box 93,840, California Medicine.

LOCUM TENENS WANTED

PHYSICIAN WANTED FOR LOCUM TENENS approximately May 1, to September 1, 1958, for active general practice in a community 50 miles north of San Francisco. Will require full time. Please apply with full particulars and expectations. Box 93,720, California Medicine.

RESIDENTS WANTED

RESIDENCY IN INTERNAL MEDICINE—Approved 250 bed general hospital in San Francisco. Three year approval; large out-patient department and clinic service. Stipend $325.00 per month first year, plus maintenance. Contact: EDUCATIONAL COMMITTEE, St. Luke's Hospital, 1580 Valencia Street, San Francisco, California.

(Continued in Back Advertising Section, Page 70)

Community Approaches to the Problem of Tuberculosis

During a recent study of rehabilitation needs for the tuberculous in California, 97 tuberculosis patients from a study sample of 786 could not be traced or located from the case registry data. Since this often encountered problem may represent persons who are missing needed services, or who may actually be health hazards to the community, the California Tuberculosis Association decided on an intensive follow-up investigation to determine how and why these 97 patients could remove themselves from the knowledge and control of the agencies most concerned with their welfare.

Investigators from the Tuberculosis Association found, initially, that 15 of the 97 patients were not truly "lost", since a careful search of health department records beyond the case registry turned up information through which these patients could be located. Work then began in earnest on the remaining 82 patients who had been lost to follow-up. When all available records, clues and resources had been exhausted, 60 more patients had been traced and 32 remained untraceable.

A careful examination in the 60 discovered cases helped pinpoint some of the reasons behind patients being lost to control. For 18 patients, the predominant factor was found to be failure in communication of information between the different departments and agencies concerned with the case. Information was delayed, incomplete, or not relayed at all between divisions within a department or different departments and agencies responsible for the patient. Two of these cases were lost through transfer to a private physician and three had died without that information being transmitted. Another factor, failure in record-keeping, accounted for the loss of 5 other patients. In these cases, discrepancies and contradictions were found in the various county records, family folders, registry, clinic and hospital records pertaining to the patient, not only as to age, address or dates of hospitalization, but even in diagnosis, to such an extent that follow-up of these patients in daily routine was impossible.

In the remaining 26 cases, failure of the patient to report was adjudged the primary reason for loss of control. This group fell into two categories: (1) Patients who unwittingly removed themselves from supervision by simply not reporting a change of address through negligence or poor understanding of their illness; and (2) patients who deliberately attempted to escape supervision, a group composed primarily of single men with histories of arrests and irregular hospital discharges.

The 32 patients who could not be located were similar to this last group. Available evidence on

(Continued on Page 54)

# Free the anemic
FROM
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IRON *without irritation*

Tablets of 5 grains and 2½ grains
Elixir 6% (5 grains per teaspoonful)

New
FERGON $\bar{c}$ C CAPLETS®
IRON and VITAMIN C
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450 mg. ferrous gluconate and
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BEFORE AND AFTER SURGERY

Highest Hemoglobin Response

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in approximately 90% of patients

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FERGON PLUS *Improved* CAPLETS

Ferrous gluconate with vitamin B_{12} and Intrinsic Factor
Concentrate, folic acid and vitamin C.

2 Caplets = 1 U.S.P. oral unit of Anti-Anemia Activity
***without* gastro-intestinal upset**

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Fergon (brand of ferrous gluconate) and Caplets, trademarks reg. U.S. Pat. Off.

Physicians Evaluate Health Needs In San Francisco

(Continued from Page 24)

cation of physicians and the handicapped as to the benefits to be obtained, and better coordination and integration of services to eliminate duplication and wasted effort.

In regard to mental health problems, doctors emphasized a need for better follow-up services for discharged mental patients, to include counseling, financial assistance, vocational rehabilitation and job placement, and suggested additional free and part-pay outpatient psychiatric services, and more psychiatric beds in general hospitals.

Finally, the physicians felt that voluntary health insurance should be extended to cover the older age groups and the mentally ill, and that benefits should be more liberal in covering doctors' fees, x-ray and laboratory work, and hospital care.

A detailed preliminary report on the survey is available from the Community Health Services Committee, Health Council, United Community Fund of San Francisco, 2015 Steiner Street, San Francisco 15, California.

—*AMA Chronic Illness Newsletter*

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Attractive opportunities in California's State mental health and rehabilitation programs!

Choice of location in many modern facilities

No written examination. Personal interviews twice a month in Los Angeles and San Francisco. State representative available at annual meeting of C.M.A. in Los Angeles April 27-30

Three salary groups:
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Annual merit increases . . . Liberal retirement plan . . . and other benefits!

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CONDITIONED RESPONSE THERAPY

(with year's series of reinforcements)

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RESULTS

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"Published reports indicate that, when properly applied, in a hospital exclusively for Conditioned Response Therapy, a four year abstinence rate of 50% and better may be expected."

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Traditional and nonspecific nasopharyngeal symptoms of malaise and chilly sensations are rapidly relieved, and headache, muscular pain, and pharyngeal and nasal discharges are reduced or eliminated.

Early effective therapy is provided against such bacterial complications as sinusitis, otitis, bronchitis and pneumonitis to which the patient may be highly vulnerable at this time.

Adult dosage for ACHROCIDIN Tablets and new, caffeine-free ACHROCIDIN Syrup is two tablets or teaspoonfuls of syrup three or four times daily. Dosage for children reduced according to weight and age.

Available on prescription only.

TABLETS *(Sugar-coated)*
Each tablet contains:

ACHROMYCIN® Tetracycline	125 mg.
Phenacetin	120 mg.
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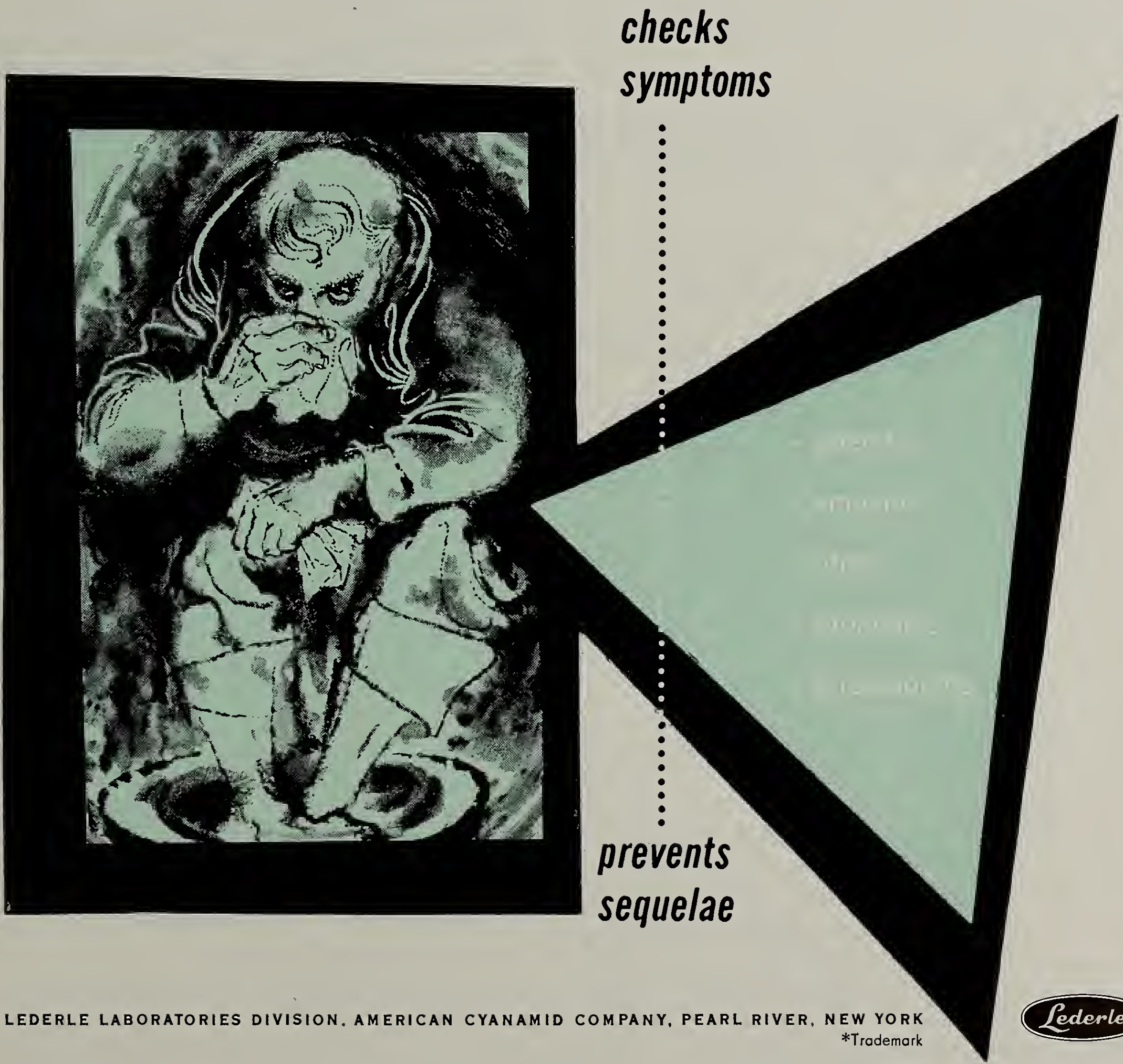
Bottles of 24 and 100

SYRUP *(Lemon-lime flavored)*
Each teaspoonful (5 cc.) contains:

ACHROMYCIN® Tetracycline equivalent to tetracycline HCl	125 mg.
Phenacetin	120 mg.
Salicylamide	150 mg.
Ascorbic Acid (C)	25 mg.
Pyrilamine Maleate	15 mg.
Methylparaben	4 mg.
Propylparaben	1 mg.

Bottle of 4 oz.



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Lederle

Diet Called Best Preventive For Tooth Decay

The best preventive for tooth decay is the development of teeth with a "high resistance" to decay, according to the American Medical Association Council on Foods and Nutrition.

A good diet during the period when teeth are forming will help develop caries-resistant teeth, James H. Shaw, Ph.D., Harvard School of Dental Medicine, Boston, said in a special report for the council. It appeared in the February 8 issue of the *Journal of the American Medical Association.*

The child's diet during the formation period should consist of a "generous selection of foods from all the basic food categories." They should be carefully cooked to preserve the original nutrient values.

An ample supply of vitamin D should be provided daily, Shaw said.

A highly desirable factor in over-all diet planning for the development of caries-resistance is the growing availability of fluoridated water supplies. Small amounts of fluorine help prevent tooth decay, he said.

After the teeth are fully formed and have erupted into the mouth, the same attention must be paid to the diet. In addition, the eating of sticky high-carbohydrate foods that adhere to the teeth should be restricted.

He noted that experimental studies in animals have shown that tooth decay does not occur unless food containing a readily soluble form of carbohydrate is present in the mouth. It is not a matter of the total amount of carbohydrate eaten by the individual.

"Of infinitely greater importance" are the form of carbohydrate and the circumstances that lead to its retention in the mouth, he said. This is in contrast to the common feeling that all carbohydrates are harmful and should be eliminated as completely as possible.

Shaw recommended that snacks and desserts containing large amounts of carbohydrate that stick to the teeth be replaced with fresh fruits, vegetables, fruit juices, or milk.

While a restriction of carbohydrates will help reduce tooth decay, the "greatest hope . . . lies in the development of teeth with a high resistance to tooth decay. This goal is no longer based on wishful thinking, as it appeared to be as recently as two decades ago," he said.

Shaw concluded that his nutritional recommendations are not "uniquely designed to produce optimal dental health," but they are recommendations that will result in an over-all good nutritional state for the individual.

In Angina Pectoris
The Attacks Lessen and
The Patient Loses His Fear

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LONG-ACTING TABLETS CONTAINING PENTAERYTHRITOL TETRANITRATE (PETN) 10 MG. AND RAUWILOID® (ALSEROXYLON) 0.5 MG.

EFFECTIVE control of angina pectoris requires the several actions of Pentoxylon. In addition to sustained coronary vasodilatation Pentoxylon provides relief of anxiety, a pleasant tranquilizing, fear-lessening effect, and a pulse-slowing action, all desirable in management of the anginal patient.

- Reduces incidence of attacks
- Reduces severity of attacks
- Reduces or abolishes need for fast-acting vasodilating drugs
- Reduces tachycardia
- Reduces blood pressure in hypertensives, not in normotensives
- Increases exercise tolerance
- Exceptionally well tolerated
- Minimal side actions

DOSAGE: One to two tablets q.i.d. before meals and on retiring.

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Comforting Warmth

in cold weather complaints

tonsillitis - bronchitis

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NUMOTIZINE
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The warming relief provided by Numotizine in tonsillitis, bronchitis and related respiratory conditions is welcomed by the patient, helpful to convalescence.

An application of Numotizine causes vasodilation and produces analgesia to assist decongestion and relax the patient, thereby hastening recovery.

Numotizine is easy to apply, requires no heating, and relieves for eight or more hours without changing. It is compatible with the use of such specific medication as may be indicated.

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FORMULA: Guaiacol 2.60, Beechwood Creosote 13.02, Methyl Salicylate 2.60, Sol. Formaldehyde 2.60, Polyols and Aluminum Silicate q.s. 1000 parts

Denver Physicians Study Asian Flu Deaths

(Continued from Page 30)

Alcoholism and/or chronic liver disease was present in 11 of the 13 persons over 30 years of age. Other associated conditions were epilepsy, prematurity, chronic rheumatoid arthritis, Mongolism, and bronchiectasis.

The physicians noted that the types of pneumonia appearing in these individuals were similar to those reported during the 1918-20 influenza epidemic. However, some findings, including severe changes in the internal organs, reported in 1918 were absent. In general, the age group was more widespread than in the 1918-20 epidemic and the duration of symptoms was shorter, they said.

In conclusion, the physicians raised the question of antibiotic treatment for influenza and subsequent ailments. They suggested that careful medical attention and antibiotics should be given to chronically ill persons, especially those with alcoholism and/or chronic liver disease, who contract influenza.

The authors are Drs. Richard E. Herrmann, George I. Ogura, Edward S. Johnson, Henry W. Toll Jr., and William C. White. They are associated with the department of pathology, Denver General Hospital, and the coroner's office of the city and county of Denver.

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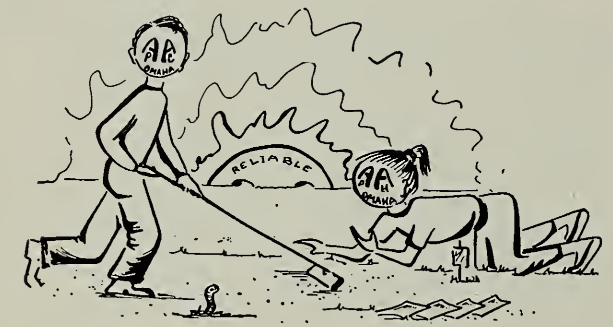

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Community Approaches to the Problem of Tuberculosis

(Continued from Page 42)

these patients gave histories of alcoholism, nomadism and police episodes, and they were considered to be truly lost patients. For the others, the major steps toward more efficient control were pointed up to be more accurate and efficient record-keeping on the part of tuberculosis agencies and an improved flow of information and coordination between the various tuberculosis control services and the case register. The provision of personnel in adequate quantity and quality for efficient reporting will also receive increased emphasis.

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Blood collecting and dispensing supplies—Blood donor set, disposable, field; blood recipient set, disposable, field; blood collecting and dispensing containers; tube, blood collecting, vacuum; intravenous injection sets, blood grouping and typing sera.

Biologicals—Tetanus antitoxin, smallpox vaccine, gas gangrene antitoxin, yellow fever vaccine, diphtheria antitoxin, diphtheria and tetanus toxoids and pertussis vaccine, cholera vaccine, plague vaccine, rabies vaccine, antirabies serum, botulism antitoxin (Type A & B), tetanus and diphtheria toxoid, typhoid and paratyphoid vaccine, tetanus toxoid (A. P.), typhus (epidemic) vaccine.

Surgical textiles—Bandage (gauze and muslin), cotton (USP), compresses (including burn dressings), bandage (plaster of paris), cellulose (absorbent), first aid dressings, absorbent gauze, surgical mask and cap, gauze (packing abdominal), sanitary pads, abdominal pads, adhesive plaster, gauze pads, stockinette (surgical), cotton sheet wadding, white cotton gloves for burns.

Emergency surgical instruments and supplies—Tracheostomy set, hypodermic needles, forceps (hemostat), forceps (tissue), forceps (dressing), holder (needle), surgical knife blades, surgical knife handles, general operating probe, bandage scissors, general surgical scissors, absorbable and nonabsorbable sutures, general operating retractor set, syringes (hypodermic Luer), Thomas leg splint, bone saw, rongeur, razor and blades for surgical preparation, surgical drape (plastic), surgical apron (plastic), cast cutting knife, rubber or plastic airway, penrose drain, duodenal tube, wire ladder splint, textile webbing, instrument tray, nonpneumatic tourniquet, urethral catheters, surgical rubber gloves, surgical needles, ether mask (inhaler Yankauer), stethoscope, obstetrical forceps, clinical thermometers, rubber or plastic tubing and connections.

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Medical Research

The Program of the U. S. Public Health Service

THOMAS D. DUBLIN, *M.D.*, Bethesda, Maryland

• Federal Government expenditures for medical research have increased apace in the last ten years. The increase in federal research funds has stimulated support from private sources; contributions from other than federal sources have doubled.

More than half of medical research funds are being used by universities, hospitals, and other nonprofit institutions, and less than one-fourth by laboratories of the Federal Government.

Grants-in-aid of research, fellowships and extended training are made on the advice of Advisory Councils made up of leaders in the various research fields. The previous record of research by staffs and faculties of institutions is taken into account. Special attention is given to unknown investigators and small projects.

Noninterference with a scientist in the conduct of research is a basic principle of all grants. He may change the direction of his research to pursue promising leads without asking permission.

Continuity of grants so that promising projects need not be abandoned at the end of a grant period is given special consideration.

REMARKABLE CHANGES have taken place since World War II both in the substance of medical research in this country and in the sources of support for the total national medical research effort. Several penetrating analyses of the dynamic factors influencing these changes are readily available. It is not my purpose, however, to discuss the impact on present-day medical science of these complex factors such as the many-faceted wartime research and development program, and the rapidly converging interests of the physical, biological, and medical sciences. Rather, it is my purpose to consider briefly one significant alteration in the environment in which medical research is being conducted and to outline the role of the United States Public Health Service in encouraging and assisting medical research of high quality in universities, hospitals and other research institutions throughout the country.

Last year Dr. James A. Shannon, Director of the National Institutes of Health in Bethesda, Maryland, the research bureau of the Public Health Service, voiced the following opinion before the Clinical Sessions of the American Medical Association in Boston: "Viewed in perspective, the past decade has been the first period in our history when the national medical research effort was financed on a scale reasonably commensurate with the potential humanitarian and economic gain to be derived from such effort."[1] In this discussion of "Trends in Medical Research," Dr. Shannon drew attention to a significant recent phenomenon—namely, widespread public interest and public determination to support medical research. Such vital encouragement of medi-

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Presented before the Section on Public Health at the 86th Annual Meeting of the California Medical Association, Los Angeles, April 28 to May 1, 1957.

The author is Medical Director, Community Services Programs, National Institutes of Health, Public Health Service, Department of Health, Education, and Welfare, Bethesda, Maryland.

cal scientists has resulted both in the augmentation of total funds available from all private and public sources, and in increased appropriations of federal tax funds in support of medical research.

It is estimated that in 1947, the total national expenditure for medical research amounted to about $87.5 million, more than twice the amount available for these purposes in the immediate pre-war period. Of the 1947 expenditures, federal tax support amounted to $28 million, about 32 per cent of the total; in 1940, just before the war, the federal contribution to our national medical research program was about $3 million, about 7 per cent of the total. The best available figures for 1957 at the time of this writing indicated that some $330 million was to be spent for medical research, with roughly 56 per cent of that amount ($186 million) to be supplied by the Federal Government. Thus, in the last 11 years, total national medical research funds have increased almost fourfold; federal contributions in support of medical research have increased more than sixfold during the same period, and now represent more than half of the total.

It is highly significant that, during this same postwar period, support of medical research from other sources—from industry, from private philanthropy and from income from endowment—has not fallen, as some had feared, but in fact has doubled. This increase, however, has not been proportional to that of the federal share. In this regard it is worthy of emphasis that federal expenditures for medical research have stimulated and encouraged more substantial support from other sources. It may also be pertinent to point out that despite this substantial growth, today less than 5 per cent of the nation's total research and development effort is devoted to medical research.

Of equal importance to the sources of financial support of medical research are the channels through which these funds are expended. Although more than half of the national medical research funds are derived from federal appropriations and only about one-sixth from private sources other than industry (philanthropy, plus income from endowment), almost the reverse is true in terms of use. More than half of medical research funds are being used by universities, hospitals and other nonprofit institutions and less than one-quarter by research laboratories of the Federal Government. Industry contributes about one-fourth of the total and expends almost an equal proportion. Stated in slightly different terms, of the $255 million medical research program carried on in nonfederal laboratories and research institutions, $111 million, or almost 45 per cent of the cost of all private medical research, is being met with federal funds.

Five federal agencies—the Department of Defense, the Atomic Energy Commission, the Veterans Administration, the National Science Foundation and the Department of Health, Education, and Welfare—are each making a significant contribution to the nation's medical research effort. The roles assigned to each through legislative authorization merge one with the other, but there can be little doubt that these programs are complementary and in no sense compete either for federal funds or in the application of their resources to useful purposes.

At present the Department of Health, Education, and Welfare, and particularly its component health agency, the Public Health Service, occupies a dominant place in the support of medical research through the use of federal tax funds. In turn, the National Institutes of Health, the principal research arm of the Public Health Service, is charged with dual medical research responsibilities. One of these responsibilities is to conduct medical and related research within its own laboratories and facilities, including the Clinical Center at Bethesda, Maryland, and a number of field stations in various parts of the country. The other is to aid in the support of individual scientists or groups of scientists working in universities, hospitals, laboratories, and other public and private nonprofit institutions throughout the country. It may be of interest to note that more than two-thirds of National Institute of Health (NIH) funds are expended in our so-called extramural activities—grants and awards to nonfederal scientists. Less than one-third is spent on intramural or direct operations. Although the NIH constitutes the primary focus of medical research activity within the Public Health Service, the other principal Bureaus of the Service—the Bureau of Medical Services and the Bureau of State Services—are also engaged in investigative and research activities. It is a fundamental belief of those who guide Public Health Service programs that an active research program is essential to the establishment and maintenance of highest standards of performance in all its assigned tasks.

The roots of the Public Health Service program of medical research can be traced back readily to 1887, when the service established one of the first bacteriology laboratories in this country. This was in response to the urgent need to guard against the introduction and transmission of epidemic disease by the large number of persons then flocking to these shores. Those familiar with the history of modern preventive medicine will recognize such names as Rosenau, Goldberger, Anderson, Frost, Lumsden and others that were identified with the Public Health Service Hygienic Laboratory, which in 1930 became the National Institutes of Health.

In 1937 Congress established the first of our present-day categorical institutes, the National Cancer Institute. Six additional categorical institutes were created in the post-war period 1948-1950: National Heart Institute, National Institute of Allergy and Infectious Diseases, National Institute of Arthritis and Metabolic Diseases, National Institute of Dental Research, National Institute of Mental Health, and National Institute of Neurological Diseases and Blindness. The Division of Research Grants, with administrative responsibility for the management and policy direction of the Public Health Service research grant program, was also established in the same period.

Each institute has been authorized by Congress to conduct research within its own facilities. In addition, each is authorized to support research into the causes, diagnosis, prevention and treatment of diseases and disabilities of man through grants and fellowships to nonfederal scientists. The institutes also support certain types of academic and research training.

Congress, in establishing these institutes, provided a very broad interpretation of each categorical area so that scientists seeking support of their research activities need not fear restrictive limitations on the project design or the direction in which their investigative efforts might lead. To fill any gaps that might lie outside the interests of one or more institutes, Congress has authorized the Division of Research Grants to make grants of a totally noncategorical nature.

More recently, additional research grant and award authority has been assigned to the Public Health Service. Today, not only the National Institutes of Health, but also the Division of Hospital and Medical Facilities and the Division of Nursing Resources in the Bureau of Medical Services, the Division of Sanitary Engineering Services, and the Division of Special Health Services in the Bureau of State Services are actively engaged in the Public Health Service research program.

By Congressional authority, nine National Advisory Councils have been established as advisors to the Public Health Service. No research or training grant may be made by the Surgeon General unless recommended for approval by one of these councils. Seven of the councils advise the seven institutes of the National Institutes of Health on their respective programs, in addition to reviewing and recommending appropriate action on applications for grant support. The National Advisory Health Council reviews applications for general or noncategorical research grants not falling within the interest of the institutes, and advises the Surgeon General on matters relating to general health activities and functions of the service. The Federal Hospital Council advises the Surgeon General on matters relating to the administration of the Hospital Survey and Constructions Program and reviews applications for grants-in-aid of projects relating to hospital services, facilities, and resources.

The National Advisory Council on Health Research Facilities, established in July 1956, reviews and recommends appropriate action on applications submitted by universities or other nonprofit institutions for assistance in the construction and/or equipping of additional facilities for the conduct of research in the sciences relating to health.

In view of the large number of applications submitted to the National Institutes of Health, covering the entire range of medical and biological research, the National Advisory Councils require the advice of many technical consultants. It was estimated that between 9,000 and 10,000 applications would be processed in 1957, of which some 6,000 would be supported through grants. The Division of Research Grants, therefore, has established over thirty study sections and other review committees. The members of these study sections and review committees are recognized leaders in the various fields of research, and, for the most part, are scientists in nonfederal agencies. In effect, then, these scientists, representing diverse fields and interests outside of government, act as technical advisors to the National Advisory Councils and to the Surgeon General. They accept responsibility not only for providing technical advice on applications for research support, but also, in conjunction with the councils, for surveying as scientific leaders the status of research in their particular fields in order to determine areas in which additional activity should be initiated or expanded.

Let me now outline briefly the principal types of grants and awards made by the Public Health Service in support of research, training, and construction:

1. *Research Grants.* Research grants are made to universities, hospitals, laboratories and other public or private institutions and to individuals for support of research projects in health, medicine and allied fields, including experiments or demonstrations relating to the development, utilization, and coordination of hospital services, facilities, and resources. The major objectives of the research grant program are (1) to expand medical and biological activities in research institutions throughout the country; (2) to provide on-the-job training for scientific personnel in connection with the research being conducted; and (3) to stimulate new investigations in fields needing exploration. These funds provide for salaries, equipment, supplies, travel and other expenses.

2. *Research Fellowships.* Research fellowships of five types are available: (a) *Predoctoral Research Fellowship,* awarded to qualified persons who hold a bachelor's degree or equivalent training. Fellows are expected to carry on studies oriented toward graduate training in fields related to the health sciences. (b) *Postdoctoral Research Fellowship,* awarded to qualified persons holding a doctor's degree in medicine, dentistry or related fields. Stipends and extra allowances are awarded under established Public Health Service policy. (c) *Special Research Fellowship,* awarded to qualified applicants who have demonstrated unusual competence for research, or who require specialized training for a specific problem. The amount of the stipend is set in each case. (d) *Student Part-time Research Fellowship,* designed to give students in medicine, dentistry, nursing and public health an opportunity to explore the research field in the hope that many of those supported will enter into full or part-time research careers. A predetermined number of these fellowships may be awarded each year. (e) *Senior Research Fellowship,* granted in support of preclinical science investigators between the completion of postdoctoral training and eligibility for permanent academic appointment. These funds provide for salaries plus research expenses not exceeding $2,000. The Senior Research Fellows may also apply for research grants to support their research.

3. *Undergraduate Training Grants.* Undergraduate training grants are awarded to medical schools, dental schools, public health schools and schools of nursing to assist in developing expanded and better integrated undergraduate instruction in the special fields concerned. It is the responsibility of the institution to determine the most appropriate use of the funds.

4. *Graduate Training Grants.* Graduate training grants are awarded to public and private nonprofit institutions interested in providing special training for researchers, teachers and prospective practitioners interested in public service. These funds may be used to improve facilities and to provide salaries for faculty, staff and trainees, along with necessary supplies and materials.

5. *Traineeships.* A series of traineeship stipends are awarded either directly to the individual in training or through a training grant to the institution for this purpose. Traineeships are awarded to physicians and other professional personnel in order to encourage specialization in one of the branches of medicine supported. Stipends and extra allowances are made under established PHS policy.

6. *Health Research Facilities.* Under the Health Research Facilities Act, July 1956, the Congress authorized the establishment of a program to assist in the construction and/or equipping of additional facilities for the conduct of research in the sciences relating to health by providing grants-in-aid on a matching basis to public and private nonprofit institutions. The amount of federal funds awarded may not exceed 50 per cent of the total costs of the research portion of the facility, the remaining sum to be provided from nonfederal sources.

Public Health Service programs in support of research and training in universities, hospitals and other nonfederal institutions have justified continued Congressional interest, as evidenced in the following table which shows the growth of the programs by appropriation year:

	Research Grants	Fellowships	Training Grants*	Health Research Facilities
1946........	$ 780,000	$ 44,000	$ 29,000	$ ....
1947........	3,576,000	178,000	250,000	....
1948........	9,145,000	520,000	2,810,000	2,303,000
1949........	10,871,000	1,115,000	3,930,000	....
1950........	13,065,000	1,448,000	6,415,000	5,775,000
1951........	16,713,000	1,565,000	6,928,000	9,459,000
1952........	18,173,000	1,755,000	7,392,000	4,625,000
1953........	20,374,000	2,024,000	8,194,000	....
1954........	28,866,000	2,133,000	10,813,000	....
1955........	33,918,000	2,562,000	11,051,000	....
1956........	38,038,000	2,800,000	14,502,000	....
1957........	93,300,000	5,397,000	28,075,000	30,000,000

*Includes traineeships.

May 8, 1957

Many other aspects of the Public Health Service research grant and award program could profitably be reviewed. Within the limitations of this presentation, however, it is necessary to select only a few additional principles that are basic to the operation of our total program. I shall refer to the need for safeguarding the scientific freedom of the investigator; the importance of continuity and stability of support; and to equitable distribution, geographic and otherwise, of research grants and awards.

Scientific Freedom of Investigator

Noninterference with the scientist in the conduct of his research is the most important principle underlying our program. A number of safeguards have been established to insure that the Public Health Service in no way controls the research carried out under the grants. These measures include: (1) The legislation itself, which vests in the National Advisory Councils the authority for selecting the applications meriting support; (2) the awarding of grants on the basis of competent review by the applicant's scientific peers; (3) permission to publish results without previous clearance from or notification to the Public Health Service; (4) freedom of the grantee, once a grant has been awarded, to make substantial transfers between budget categories without previous approval; (5) provision for the grantee institution to administer the grant under the rules and regulations of that institution, rather than under Public Health Service rules; (6) vesting in the grantee institution of title to all equipment purchased with grant funds; and (7) authority to the scientist to change his research plans without need for getting approval if he finds new and more promising leads. These safeguards guarantee to the scientist that he will have the scientific freedom required for the best work.

Stability of Support

Stability of support for the investigator is also one of the chief concerns of those responsible for administering the research program of the Public Health Service. Readily conceding the preferability of endowment or other so-called "hard money," but recognizing the often frustrating and disappointing results of universities in obtaining such funds, the Public Health Service has developed policy to provide the maximum stability practicable under an annual appropriation project plan. An applicant who receives a grant for a year may also receive a moral commitment of from one to four additional years of support—a promise to pay, provided Congress appropriates the necessary funds. At the end of the committed period, the grantee often receives additional years of support after the National Advisory Councils and study sections have evaluated his needs and plans. Under this procedure a grantee may conceivably receive Public Health Service support of his research for an indefinite period.

Distribution of Research Grants and Awards

On several occasions studies have been made of the distribution of Public Health Service grant awards to institutions and to geographic areas of the country. As might be expected, the number of institutions sponsoring scientists receiving Public Health Service awards is quite large and increases with each passing year. It is of interest, however, that a relatively small number of institutions account for a large number of grants. For example, ten institutions received 35 per cent of all Public Health Service research grants in 1953. Using an index of research potential based on the percentage of faculty members listed in American Men of Science and the percentage of articles they have published in 53 leading periodicals, one finds a rather pronounced degree of correlation between grant awards and the research potential of an educational institution. The same is true when grants are analyzed geographically. Last year, for instance, the Pacific States (California, Oregon and Washington) received 12.8 per cent of the grants, whereas 11.7 of established scientists were located in this area. Since projects are evaluated primarily on the basis of merit, these findings were anticipated even though effort is made to help unknown investigators and institutions or agencies that have only small research programs. We believe these efforts are most important in the individual case even though they affect only slightly the over-all distribution of funds.

National Institutes of Health, Bethesda 14, Maryland.

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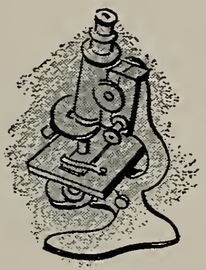

Congestive Heart Failure in Infants and Children

SAUL J. ROBINSON, *M.D.*, San Francisco

• Congestive failure in infants and children is not uncommon and may be present in a varying number of conditions, particularly in certain types of congenital heart disease. Its recognition and proper treatment are usually followed by improvement, except in those instances where the failure is associated with a lesion incompatible with life. The essentials of treatment are: Treatment of the underlying cause, administration of a digitalis preparation, low salt diet, diuretics, rest and sedation, oxygen, adequate diet and, in rare instances, the use of steroids.

CONGESTIVE HEART FAILURE occurs in as many as 10 to 20 per cent of all cases of heart disease in infants and children. The response to proper treatment of this condition is often dramatic and life saving.

Causes of Heart Failure

Most cases of heart failure in infants and children are due to congenital heart disease of one kind or another. In early infancy aortic atresia and transposition of the great vessels may give rise to failure, and treatment may be of only temporary benefit.[4] However, such curable lesions as patent ductus arteriosus, coarctation of the aorta and severe pulmonary stenosis may also be complicated by congestive failure which, if properly recognized and treated, may subsequently permit the surgical correction of the lesion. Combined lesions such as patent ductus arteriosus associated with an interventricular septal defect or with aortic stenosis are particularly likely to bring about heart failure in infancy.

In addition to congenital heart disease there are other conditions which may cause heart failure, among them pronounced anemia, hypothyroidism, sickle cell crisis, acute glomerulonephritis, paroxysmal atrial tachycardia,[2] thyrotoxicosis, diphtheria, "beri-beri heart," administration of desoxycorticosterone acetate or other steroids, rheumatic fever, cerebral vascular accident, subacute bacterial endocarditis, constrictive pericarditis, coronary artery occlusion, fibroelastosis and nonspecific myocarditis.

Clinical Features of Congestive Cardiac Failure

The clinical features of congestive failure are sometimes difficult to recognize in an infant or child and are often confused with those of infection. It is difficult if not impossible to differentiate between left heart and right heart failure in the young age group.[7] In general, signs of right heart failure predominate, and are:

1. *Rapid respirations.* The normal respiratory rate at birth and soon thereafter is approximately 40 per minute. It may range from 50 to 100 per minute and still not be identified as a sign of abnormality. Of course fever, particularly associated with a pulmonary infection, may produce rapid respirations. In cyanotic heart disease rapid respirations may be due to associated attacks of cerebral anoxia and not congestive failure; and the treatment for these two conditions is entirely different.

2. *Hepatomegaly.* The lower edge of the liver is easily palpated in infancy and can be one to two centimeters below the right costal margin without abnormality. The edge may be even lower in the presence of respiratory infection causing increased expansion of the lungs—as in bronchiolitis—in which case it is not enlarged but merely displaced caudally. Usually in such circumstances the spleen is more easily palpable. In true congestive failure, however, the liver is usually decidedly enlarged and the lower edge may be percussed or palpated at the umbilicus. Hepatomegaly not only is a sign of congestive failure, but a decrease in size is an excellent criterion of response to therapy.

3. *Cardiac enlargement.* Cardiac enlargement usually precedes and accompanies congestive heart failure.[9] In infants and children the size of the heart is difficult to determine radiologically, particularly if there is a superimposed thymic shadow. A greatly enlarged cardiac shadow unassociated with signs of congestive failure should lead to the suspicion that the shadow is not due to an enlarged heart.

4. *Tachycardia.* Although the rate is difficult to evaluate in a crying or moving child, a rate of 120 per minute or over in the absence of fever or crying, and when accompanied by rapid respirations and hepatomegaly, is indicative of tachycardia.

5. *Gallop rhythm.* A gallop rhythm usually denotes congestive failure, but this rhythm must be differentiated from the physiological third heart sound.

6. *Pulmonary rales.* Rales may be heard at both lung bases but are infrequent in infants, and when

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TABLE 1.—*Data on Administration, Action, Duration and Toxicity of Various Digitalis Preparations*

Agent	Method of Administration	Onset of Action	Time for Maximum Effect	Duration of Effect	Maximum Duration Toxicity
Digitalis leaf	Oral	6 hr.	12 to 48 hr.	17 days	1 to 2 weeks
Digitalis, injection USP	Intravenous or intramuscular	2 hr.	6 hr.	17 to 21 days	1 to 2 weeks
Gitalin	Oral	....	24 to 48 hr.	10 to 12 days	....
Digitoxin	Intravenous or intramuscular Oral	30 min. 2 hr.	2 to 9 hr.	21 days	3 weeks
Digoxin (lanoxin)	Intravenous or intramuscular Oral	30 min. 2 hr.	4 to 6 hr.	4 to 7 days	1 to 2 days
Lanatosid C or D (Cedilanid)	Intravenous or intramuscular Oral	10 to 30 min. Absorption indefinite	2 to 3 hr.	2 to 3 days	1 day
Oubain	Intravenous	5 min.	30 min.	1 to 4 days	2 to 6 hr.
Acetyl strophanthidin	Intravenous	½ to 5 min.	12 min.	2 hours	30 min.

present are difficult to differentiate from those due to the pulmonary infection which frequently accompanies failure.

7. *Peripheral edema.* Edema is a very late sign of failure in infants and children. It indicates a very severe degree of failure.

8. *Easy fatigability.* This sign may be an important clue in detecting congestive failure in infants, and often it is the mother who notices that the infant pauses frequently to rest during his feedings.

The determination of venous pressure, vital capacity and circulation time is difficult in infants and small children, and are then only confirmatory procedures utilized after congestive failure has already been suspected by other signs and symptoms.

Treatment

Proper treatment of heart failure depends upon the application of certain fundamental measures, without, however, undue reliance on any one phase of treatment, and with close observation at all times. These fundamentals include:

1. *Treatment of the underlying condition.* Congestive failure is often precipitated by an infection or electrolyte imbalance, particularly in a child with a low reserve. Hence a child with pneumonia and heart failure should be vigorously treated with antibiotics, and one who has pronounced anemia should have careful replacement of blood. In conditions such as coarctation of the aorta, patent ductus arteriosus and severe pulmonary stenosis, surgical intervention must not be postponed too long, for operation may be the only way congestive failure may ultimately be relieved.

2. *Digitalis.* Use of a digitalis preparation is the basis of treatment for congestive failure.[6] There is nowadays no general reluctance to use such preparations in infants and children. One must not rely on it too much; although in most instances an average digitalizing dose will be effective,[1] the individual variability of response must be kept in mind. Whichever digitalis preparation is used, the therapist must be familiar with certain basic factors concerning it: The average digitalizing dose for the age and weight of the infant or child, the rapidity of action by both oral and parenteral routes, and the signs of toxicity. The most commonly used preparations are: Digitalis leaf or tincture, digitoxin, Digoxin® (lanoxin),[8] lanatosid C or D, acetyl digitoxin (Acylanid®) and Gitalin.®

Digitalis leaf acts slowly and dissipates slowly. Lanatosid C or D acts rapidly and is swiftly dissipated. The other preparations are between these extremes. Table 1 shows the method of administration, the onset of action, the time for maximal effect, duration of effect and the maximal duration of toxicity for each of the preparations mentioned. The usual method of administration and the digitalizing doses of these preparations are shown in Table 2. It is extremely important that one learn the vagaries of one or more preparations well, particularly with glycosides (the dose of which is 1/1000 that of a whole leaf preparation) for errors of dosage or in calculation of duration of effect may be disastrous.

It is difficult to determine how long to continue administration of digitalis once the congestive failure has been controlled. In general it may well be continued beyond the time the underlying cause has been eliminated. In prolonged administration of digitalis to an infant, the relatively rapid weight gain in this age group must be kept in mind, lest the patient outgrow the calculated dose.

One must not rely on digitalis alone, increasing doses to the point of toxicity before resorting to adjunctive therapeutic measures such as low salt diet and mercurial diuretics, or before investigating the reasons for ineffectiveness of the preparation. For

TABLE 2.—*Dosage of Various Digitalis Preparations for Infants* and Children**

Agent	Method of Administration		Digitalizing Dose	Maintenance Dose
Digitalis leaf	Oral	Infant	15 mg./lb.	1/10 total digitalizing dose
		Child	10 mg./lb.	
		Adolescent or adult	1.2 to 2.0 gm. (average 1.5 gm.)	
Gitalin	Oral	Infant	0.02 to 0.04 mg./lb.	1/10 total digitalizing dose
		Child	0.01 to 0.02 mg./lb.	
		Adolescent or adult	3.0 to 10.5 mg. (average 5.7 mg.)	
Digitoxin	Oral, intravenous or intramuscular	Infant	0.02 to 0.03 mg./lb.	1/10 total digitalizing dose
		Child	0.01 to 0.02 mg./lb.	
		Adolescent or adult	1.3 to 2.0 mg. (average 1.7 mg.)	
Digoxin (lanoxin)	Intravenous or intramuscular	Infant	0.02 to 0.03 mg./lb.	
		Child	0.01 to 0.02 mg./lb.	
		Adolescent or adult	0.75 to 1.0 mg. (average 0.8 mg.)	1/10 to ¼ total digitalizing dose
	Oral	Infant	0.03 to 0.04 mg./lb.	
		Child	0.02 to 0.03 mg./lb.	
		Adolescent or adult	2.0 to 5.0 mg. (average 3.75 mg.)	
Lanatosid C or D	Intramuscular or intravenous	Infant	0.01 to 0.02 mg./lb.	1/10 to ¼ total digitalizing dose
		Child	0.008 to 0.01 mg./lb.	
		Adolescent or adult	1.2 to 3.2 mg. (average 1.6 mg.)	
Oubain	Intravenous	Infant	0.006 to 0.008 mg./lb.	Not used
		Child	0.006 to 0.008 mg./lb.	
		Adolescent or adult	0.6 to 1.0 mg. (average 0.7 mg.)	

Safe average digitalizing dose for purified glycosides 0.015 mg./lb.

*Infant is under 2 years; child is 2 to 12 years.

example giving digitalis to a patient with hypokalemia may result in toxic arrhythmias without having any therapeutic effect until the potassium level is brought up to normal.[1,5] Sometimes when manifestations of digitalis toxicity develop, administration of potassium may relieve them even though the blood potassium content is already normal. It must also be kept in mind that since calcium and digitalis are synergistic, one must be cautious in using them simultaneously or consecutively.[3]

3. *Low salt diet.* A low salt diet is an invaluable adjunct in the treatment of congestive failure. In infants the administration of Lonolac,® a powdered milk, or the use of one of the recent low-salt evaporated or whole milk preparations which are now available in California should be instituted at the same time as the administration of the digitalis in any case of severe congestive failure. After the acute phase is over, it may be possible to permit the infant to have a modified or even regular salt intake without ill effect.

4. *Diuretics.* If digitalis and a low salt diet are not completely effective, use of a diuretic is indicated. There are several available preparations of both the mercurial and nonmercurial types. Thiomerin® (mercaptomerin sodium) has been used in pediatric cardiology because it can be given subcutaneously, and it is now very widely used in adult cardiology, as it seems to be somewhat safer than other preparations. The administration of 0.1 cc. of Thiomerin subcutaneously as a test dose can be followed by the administration of 0.12 to 0.25 cc. to an infant under one year, and 0.25 to 0.5 cc. to older children. It is usually best to give it every other day, and to discontinue it as soon as a response is obtained and maintained. Other diuretics such as Mercuhydrin® (meralluride sodium) may also be used. An oral preparation known as Diamox® (acetazoleamide), a carbonic anhydrase inhibitor, may be given in a dose of 2 to 3 mg. per pound of body weight per day. With the administration of mercurial diuretics, two precautions must be observed: (1) The loss of chlorides may produce alkalosis, which will make the mercurial diuretic ineffective until the loss is restored; (2) with pronounced diuresis a low salt syndrome may develop, with drowsiness and even stupor,[3] particularly in very warm climates. The rapid loss of fluid in diuresis may result in hypopotassemia, which may not only render the further administration of digitalis ineffective but result in digitalis intoxication.

5. *Rest and sedation.* Bed rest, and in some in-

stances the orthopneic position, are necessary. If drugs are necessary for complete rest, they should be given phenobarbital if it is adequate, and, if not, morphine sulfate in a dosage of 1 mg. per 10 pounds of body weight. Tranquilizers may merit consideration but they have not yet been used enough for this purpose to be recommended.

6. *Oxygen.* Oxygen administered in approximately 40 to 50 per cent concentrations seems to have a sedative effect in many cases, and also slows both the pulse and respirations. If pulmonary edema is present, oxygen should be bubbled through 50 per cent ethyl alcohol and given for five to ten minutes every hour or half-hour.

7. *Diet.* The diet should be essentially fluid in the early stages of treatment, after which a nutritious diet high in vitamin content should be used, with regulation of sodium content as needed.

8. *Cortisone.* Although steroids themselves may be a cause of congestive failure in rare instances, it has been reported that the use of cortisone or corticotropin (ACTH) may relieve severe cardiac failure due to rheumatic fever in some cases. They must be used with caution, however.

9. *Phlebotomy or venesection.* This measure is rarely used, but has been helpful in instances where overzealous administration of blood postoperatively has resulted in the precipitation or aggravation of heart failure.

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The Management of Cancer of the Breast

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• Radical mastectomy is excellent only for cases of operable breast cancer in which the tumor is limited to the breast or to the nodes in the axilla. That there is metastasis to the internal mammary lymph nodes in a high proportion of cases has been "overlooked" for many years. Also it is probable that metastasis occurs to the supraclavicular lymph nodes more often than is suspected. Hence the extended radical mastectomy operation leaves much to be desired. There has been no significant improvement in recent years in the mortality rate of mammary cancer.

Simple mastectomy and thorough adequate postoperative radiation therapy have much to offer.

Treatment of "operable" breast cancer should be a cooperative effort of surgeon, radiation therapist and pathologist.

CANCER OF THE BREAST is the most common malignant neoplasm occurring in women in this country. There has been no significant change in the death rates from breast cancer in California from 1920 to 1954.[12]

One factor in reported improvements in five-year survival rates is that since patients are now selected for operation with greater care than previously, operation is less often done in inoperable cases. Although use of surgical procedures in inoperable circumstances probably increase the rate of growth of the cancer and shortens life, in some such cases simple mastectomy may be indicated to remove a large ulcerated lesion as a palliative measure.

Perhaps the most widely accepted and universally employed operation in cancer therapy is radical mastectomy in the expectation of removing the primary cancer, its immediate surrounding tumor bed and the adjacent lymphatic tissues.

For many hundreds of years cautery and the use of escharotic materials were the main means of treatment of breast cancer. During the nineteenth century various modifications of simple mastectomy procedures were introduced. None of these measures was adequate to control breast cancer.

In 1894 Halsted[3] described an operation which was destined to become, after some modifications, widely accepted. Halsted did not at that time advocate removal of the pectoralis minor muscle. He did recommend removal of the supraclavicular lymph nodes on the same side as the breast lesion, but this was not routinely done. Meyer,[11] in 1894, presented an improved operation for radical mastectomy in which he advocated the routine removal of the pectoralis minor muscle as well as the pectoralis major muscle. These two great surgeons, independently concentrating on the problem of the surgical cure of breast cancer, were both arriving at essentially the same conclusions. Halsted also began to routinely remove the pectoralis minor muscle. He also described how some of his assistants removed the supraclavicular lymph nodes and explored the anterior mediastinum.

From 1920 to 1945 the most notable change in breast cancer therapy was the more widespread use of radium and x-ray therapy as primary treatment, as an adjunct to surgical operation and for palliation in inoperable cases. During the same period the use of estrogenic and androgenic hormones was introduced as an additional means of palliation.

The period from 1945 to the present has been one of confusing statistics, with many contradictory articles appearing in the literature, and no significant decrease in breast cancer mortality.

During this period, there have been extensive discussions of the question of simple mastectomy plus radiation therapy (McWhirter),[10] whether extended radical surgical procedures should be done, and the use of hypophysectomy and bilateral oophorectomy and adrenalectomy for palliative breast cancer. Also the importance of defining the various stages of the disease and of attempting to eliminate unnecessary operation in inoperable cases has been stressed.

It is surprising that, although much has been known for many years about the lymphatic drainage of the breast and in particular about the internal mammary lymphatics, not until recent years has a good deal of studious attention been given to this very important chain of lymph nodes. The supraclavicular lymph nodes have been ignored to a lesser degree. Most surgeons have considered involvement of the supraclavicular lymph nodes to indicate inoperability—probably rightly so, for the internal mammary lymph nodes are also usually involved.

It is quite apparent that without biopsy of the supraclavicular lymph nodes and the internal mammary lymph nodes, the clinical criteria of opera-

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bility set forth by Steinthal and Portmann and as previously described by Haagensen, are entirely inadequate.

In a study of the regional breast lymphatic involvement Wyatt, Sugarbaker and Stanton[18] analyzed the results of extended radical operation in 60 cases of clinically operable breast cancer. They found that only the internal lymphatics were involved in seven cases and that both the axillary and internal mammary lymph nodes were involved in 12 additional cases. Routine radical mastectomy would have been ineffective in 19 of the 60 operated cases. They did not give data regarding the supraclavicular lymph nodes.

Urban[15] reported upon an analysis of 215 cases of radical mastectomy with en bloc resection of the internal mammary lymph node chain in continuity. There was one postoperative death. In 35 per cent of the cases the internal mammary lymph nodes were involved and in 50 per cent there was involvement of the axillary lymph nodes. In 7 per cent of the cases there was no extension beyond internal mammary lymph nodes. In 60 per cent of cases in which there was involvement of the axillary lymph nodes and the primary lesion was in the medial half of the breast, the internal mammary lymph nodes were involved; and there was internal mammary lymph node involvement in 40 per cent of cases in which the primary lesion was in the outer quadrant of the breast. In 42 per cent of Urban's cases, routine radical mastectomy would have been ineffective. Why biopsy of supraclavicular lymph nodes was not done was not stated, and it is possible that there may have been involvement of these nodes also in some cases. The incidence of supraclavicular lymph node involvement has been reported as high as 23 per cent.

MacGuffie[9] reported that, at Delafield Hospital, in 37.3 per cent of 371 cases of clinically operable breast cancer in which biopsy of internal mammary lymph nodes was done, involvement of the nodes was noted. At Presbyterian Hospital the proportion was 25.8 per cent of 450 such cases. In 110 cases biopsy of supraclavicular as well as internal mammary lymph nodes was carried out. In only two cases were the supraclavicular nodes involved without involvement of the internal mammary nodes. In 15 cases there was involvement of the internal mammary nodes but not the supraclavicular nodes.

Urban expressed belief that most of the lymphatic spread of breast cancer occurs by embolism rather than by permeation of the lymphatic vessels. He was also of the opinion that between 10 and 15 per cent of all primary breast cancers spread via the hematogenous route. Handley,[5] in 1922, believed that breast carcinoma spreads centrifugally in all directions from the point of origin by permeation of the lymphatic plexuses.

Any attempt to define the stages of breast cancer must depend upon pathological study. In the past, reports of methods of staging have made little mention of biopsy studies of the internal mammary lymph nodes. Realistic staging of operable breast cancer must be on a clinical, surgical and pathological basis. One must know the status of the lymph nodes in the supraclavicular, axillary and parasternal regions. There is increasing evidence that widespread metastasis may take place early in the course of the disease. Batson[1] described a system of vertebral veins which extend from the skull to the coccyx and it is possible that cancer cells may become widespread by passing through these veins without going through the lungs. Perhaps if bone marrow studies were done routinely on patients with mammary cancer the incidence of wide dissemination of metastatic cells would be found to be much higher than it is now thought to be.

Even if large firm nodes are palpable in the axilla, one must wait histological study before making a diagnosis. Haagensen and Stout[2] observed that in only 236 of 278 cases in which the axillary lymph nodes were thought to be involved, on the basis of clinical examination, was there microscopic evidence of metastasis. Hooper and McGraw[6] found microscopically demonstrable metastasis in only 111 of 145 cases in which there were palpable axillary lymph nodes. Conversely, in some 50 per cent of cases in which axillary nodes are not palpable before operation, metastatic cells are found upon examination of the excised nodes. It can be concluded that unless patients with breast cancer are operated upon and histological studies of the lymph nodes are carried out, no one can state with certainty whether or not the axillary lymph nodes are involved.

In a previous study, the author and co-workers,[13] utilized one of the accepted methods of defining the stages of breast cancer.* It was observed that approximately 50 per cent of the patients had inoperable cancer when first seen and in only about 20 per cent of cases was the lesion in Stage I. Eleven patients who had supraclavicular metastasis had radical mastectomy with dissection of the involved neck nodes, and none of them survived five years. It was thought to be a reasonable assumption that patients with supraclavicular metastasis probably have metastatic lesions elsewhere as well and are not suitable candidates for operation.

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*Stage I, cancer confined to the breast; Stage II, cancer in the breast with metastasis to the axillary lymph nodes which are movable and with or without limited skin involvement of the breast; Stage III, fixation of the breast to the chest wall, metastasis to the supraclavicular lymph nodes, or distant metastasis.

Wangensteen and co-workers[16] reported the results of super-radical mastectomy done on 64 patients. The operation included excision of the supraclavicular, parasternal and mediastinal regional lymphatics. The operative mortality was 12.5 per cent. Thirty-seven or 57.8 per cent of the patients had metastatic cancer in the supraclavicular or mediastinal lymph nodes. Of 29 patients who were continuously observed, 17 were dead at the end of five years and only three of the remaining 12 were well.

Macdonald[8] expressed the belief that 55 per cent of patients with breast cancer have remote metastasis by the time the mammary lesions are detectable clinically, that in 20 per cent of cases the rate of growth is slow and the patients would live five years without treatment and that in the remaining 25 per cent of cases cure could be achieved by proper therapy, making a total of 45 per cent in which, theoretically, five-year survival would occur or could be brought about.

Urban[15] stated that the five-year salvage rate of patients with primary operable breast cancer treated by radical mastectomy is approximately 55 per cent in most of the large medical centers in this country. The five-year survival rate for 3,494 patients treated by radical mastectomy at the Memorial Hospital was 77.5 per cent in cases in which there was no axillary involvement and 39.4 per cent in cases in which axillary metastasis had occurred.

Handley and Thackray,[4] noting that "for the past 150 years isolated observers have been calling attention to the internal mammary lymph chain and its importance in the spread of carcinoma of the breast," but without offering convincing proof, began a study entailing biopsy of the internal mammary lymph node chain in association with routine radical mastectomy. Involvement of the internal mammary lymph nodes was noted in 41 of 139 patients (29 per cent) with "operable" carcinoma of the breast. In eight cases the internal mammary lymph nodes were involved without axillary invasion.

Whereas surgical treatment of breast cancer has been almost universally accepted, such has not been the case with radiation therapy.

During the past 20 years many improvements have been made in the techniques of therapy and particularly in the skill of the therapists. The work of McWhirter is an outstanding example of what can be done. Realizing that about 35 per cent of so-called "operable" breast cancers cannot be cured by the usual radical mastectomy because of internal mammary and supraclavicular lymph node involvement and that dissection of the axillary contents may actually spread the disease in some cases, McWhirter advocated simple mastectomy plus postoperative irradiation. He expressed belief that the metastatic lesions in the lymph nodes can be more readily destroyed by irradiation if the primary tumor is removed.

DISCUSSION

The extended or super-radical mastectomies will probably add little to the cure rate of breast cancer and there will be less need for them if radiation therapists and surgeons will work together to develop an effective regimen of therapy.

In the past it has not been uncommon for some surgeons to do inadequate operation and then refer the patient for radiation in the hope that any remaining cancer cells would be destroyed. While radiation therapy may in some cases and to some degree compensate for inadequate excision, it ought not be relied upon for this purpose.

The radiation therapist must be competent and willing to assume the responsibility for carrying out thorough adequate radiation therapy. It is difficult to sterilize breast cancer by radiation therapy, but it can be done. It may not always be necessary to sterilize all the cancer cells, for the effect of the radiation is not only directly upon the cancer cell but on the tumor bed also. The inherent resistance or immunity of the host against the cancer may be increased. Cases in point are two in which there was recurrence, in the surgical scar, long after radical mastectomy—21 years in one case, 32 in the other. It must be assumed that the cancer cells were lying dormant all those years until something happened to the host's natural resistance and the cancer cells began to grow again.

If radiation therapy is to be given probably the most controversial question is whether it is to be used preoperatively or postoperatively. I do not believe that sufficient evidence is available to justify the assumption that preoperative is superior to postoperative radiation therapy. Personal experiences with preoperative radiation have not justified its continued use. Giving radiation therapy before operation delays the removal of the primary lesions and on the other hand operation may be carried out too soon afterward to permit the maximum benefit from radiation.

Stein and co-workers[13] presented data to the effect that radical mastectomy and postoperative radiation materially increased the five-year survival rate. There are many reports in the literature by other investigators who have reached similar conclusions.

Surgical treatment is superior to irradiation for "operable" breast cancer when it is the only method of therapy to be used. Although the majority of surgeons in this country today may advocate radical mastectomy as the only method by which breast cancer can be successfully treated, newer concepts in breast cancer therapy may change this attitude, particularly in light of the previously mentioned facts that the breast cancer mortality has not declined, that the internal mammary lymph nodes and the supraclavicular lymph nodes may also be involved in a large proportion of cases, that it is impossible to determine operability without biopsy of these nodes, and that the extended radical mastectomy operation also leaves much to be desired.

Surely, then, the radiation therapist has much to offer in dealing with patients who have mammary cancer if a planned program is worked out in cooperation with surgeons and pathologists. At St. Bartholomew's Hospital approximately one-half of the patients admitted with breast cancer are treated by radical mastectomy and about one-half by conservative operation and radiotherapy. The results of study of these cases will be reported after a sufficient number have been treated and observed long enough.[17]

Operations, such as hypophysectomy, bilateral oophorectomy and adrenalectomy, and the use of estrogenic and androgenic hormones are of considerable importance for palliation in far advanced breast cancer. However, criteria for determining the selection of patient and the optimum time for operations of the kind mentioned are not yet definitely established.

Castration, either by operation or by radiation, offers additional months of palliation to a relatively high proportion of patients with far advanced breast cancer.

Hormones now have been used long enough in the treatment of advanced cancer of the breast to permit conclusion that they are of considerable value. The estrogens are usually prescribed for postmenopausal and the androgens for pre-menopausal women. It is probably preferable to use each palliative measure to its fullest extent rather than combine two or more at one time. For example, castration may be beneficial for four to nine months, and then later hormonal therapy could be used.

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Social Security Footnotes

THE LATE Robert A. Taft classified the Social Security Act as our greatest single step toward socialism.

—From the Department of Public Relations, American Medical Association

Triiodothyronine

Clinical Effects in Patients with Suboptimal Response to Other Thyroid Preparations

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• Thirty patients with evidence of hypometabolism or a clinically related condition were given triiodothyronine after suboptimal response to thyroxin or desiccated thyroid. DL- and L-isomers of triiodothyronine were used and compared. Thirteen patients (43.3 per cent) were improved and 17 (56.6 per cent) were unimproved or became worse. Side effects occurred in 9 of 34 trials (26 per cent), and could not always be eliminated by decreasing the dosage. The highest percentage of good response occurred in a small group (four of five) who received a combination of desiccated thyroid or thyroxin with supplemental triiodothyronine. Despite careful analysis of the data, no basis was found on which to predict which patients would receive benefit from the triiodothyronine. However, the occasional improvement, sometimes dramatic, suggested that a therapeutic trial with triiodothyronine in difficult or unresponsive cases of hypometabolism or hypothyroidism is justified.

IT IS WELL KNOWN that the usual patient with hypothyroidism is improved dramatically by replacement therapy with desiccated thyroid or thyroxin. However, occasional patients do not respond completely, and some with lowered metabolic rates have little improvement or significant side effects from usually adequate doses. In such persons the most common complaints are fatigue, lethargy, tendency to gain weight easily, nervousness, irritability, skeletal pains, emotional instability and sensitivity to cold.[3,6] The basal metabolic rate may be low, but results of other tests of thyroid function are usually within normal ranges. Large doses of desiccated thyroid may be necessary to raise the basal metabolic rate, but clinical benefit is not adequate or permanent, and side effects may prevent increasing the dose to what may seem to be a desirable level.

With the synthesis in 1952 of 3:5:3′-L-triiodothyronine,[2] a new therapeutic tool seemed available for trial in cases of this type. This new substance was found to be three to five times as potent as L-thyroxin,[1,6] with the levo form being 15 times as potent as the dextro isomer.[1,6] Therefore, 50 mcg. tablets of DL-triiodothyronine (Trionine®) as used in this study, containing both isomers, have the apparent clinical effect of 25 mcg. tablets of L-triiodothyronine (Cytomel®). In order to avoid confusion, the former (Trionine) is now labeled 25 mcg. according to its content of the L-form. In trial, 50 to 60 mcg. of DL-triiodothyronine, or 25 to 30 mcg. of L-triiodothyronine had a clinical and calorigenic effect approximately equal to 65 mg. of desiccated thyroid or 0.1 mg. of L-thyroxin.[1,4,6] Triiodothyronine acts more quickly and the effects are of shorter duration (24 to 48 hours) than those of thyroxin (two to three weeks) or of desiccated thyroid, which apparently contains both elements.

Recent reports have indicated that the rapidly acting triiodothyronine is occasionally more effective than desiccated thyroid,[1,3] especially when results with the latter were not satisfactory. However, some caution is indicated because of the rapid onset of side effects, including those on the cardio-vascular system (palpitation, angina) as well as headaches and nervousness. However, following withdrawal of triiodothyronine, there is earlier loss of undesirable effects or quicker relapse into an hypothyroid state than with thyroxin or thyroid. Clinical improvement in cases of myxedema has been associated with an increase in the basal metabolic rate and a lowering of the blood cholesterol, although the protein-bound iodine remains at hypothyroid levels.[5]

MATERIALS AND METHODS

Over a period of two years, Trionine (DL-triiodothyronine) and Cytomel (L-triiodothyronine) were administered to 30 patients observed in the Endocrine and Isotope Clinics of the Letterman Army Hospital and in private practice. Twenty-six of the patients were females and four were males. The age range was from 14 to 64 years. All but three had taken thyroid preparations for over one year in daily doses ranging from 0.12 to 0.55 grams (2 to 8 grains) of desiccated thyroid or equivalent.

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Twenty-four had taken more than 0.2 gm. (3 grains) a day for more than a year, and those taking less were unable to tolerate an increase in dosage. However, all continued to have symptoms, physical findings or laboratory results suggesting persistent hypometabolism, or significant side effects that prevented further increase in dosage of thyroid preparations. Whenever possible, a dose of triiodothyronine at least equivalent to the previously administered dose of thyroid was given, so that the effects could be compared.

For this study, Trionine (DL-triiodothyronine) was supplied in tablets of 50 mcg. (later labeled 25 mcg. according to content of L-triiodothyronine), and Cytomel in tablets of 5 mcg. and 25 mcg.* Some of the patients received Trionine and Cytomel at different times, and others were given a combination of one of the triiodothyronine preparations along with thyroxin or desiccated thyroid. One patient discontinued triiodothyronine after a few days because of side effects, three were treated for one month, and the remainder for two months or more before the therapeutic effect was evaluated. Eight patients were treated with triiodothyronine for at least six months and two for over one year.

Table 1 gives the details regarding the individual patients—the significant symptoms, physical findings, laboratory tests, medications and results. Also an attempt is made to compare the benefits from the various plans of therapy.

RESULTS

For the 30 patients treated, the results were as follows:

Unimproved—17 patients (56.6 per cent) were no better or they became worse while receiving triiodothyronine than they were previously while receiving desiccated thyroid or thyroxin.

Improved—13 patients (43.3 per cent) were better in varying degrees than they had been while receiving previous therapy.

Trionine (DL-triiodothyronine) was administered to 23 patients, 18 of whom were not improved, two somewhat improved and three much improved.

Cytomel (L-triiodothyronine) was administered to 11 patients, four of whom showed no improvement, six definite improvement and one only temporary improvement.

Trionine and Cytomel. Effects were compared in the same patient in six instances. Three felt that Cytomel was more effective, one that Trionine was superior, and two that they were not improved by either.

Combination therapy. Three patients received Trionine in combination with thyroxin or desiccated thyroid. Two received Cytomel plus thyroid. Four of the five patients receiving combined therapy derived significant benefit.

Side effects. Side effects occurred in nine of 34 trials (26 per cent); eight in the 23 patients receiving Trionine (35 per cent), and one in the 11 patients given Cytomel (9 per cent). Nervousness, palpitation and headache were the principal complaints. These effects could sometimes, but not always, be ameliorated by adjustment of dosage. One patient reported that increased nervousness occurred within two hours after the medication (Trionine) was taken and was followed by a "let-down" after four hours.

Comparison with previous therapy. As was previously noted, improvement occurred in 13 patients, ten noted no difference (seven taking Trionine and three Cytomel), and seven (six on Trionine, one on Cytomel) had results less satisfactory than that obtained formerly with desiccated thyroid or Proloid.

DISCUSSION

Patients of the kind dealt with in this study are often the subject of clinical speculation. Opinions vary as to whether the cause of the difficulty in individual cases may be physiological hypometabolism, end-organ insensitivity, rapid inactivation or diminished absorption of the thyroid hormone,[3] a mild or bizarre form of hypothyroidism not measurable by available tests of thyroid function. Another possibility is that the symptoms are independent of the apparent hypometabolism and result from an entirely different process. In an attempt to alleviate persistent symptoms, a physician may prescribe increasing doses of desiccated thyroid over a period of years without full relief, and frequently to the point of undesirable side effects. This study suggests that triiodothyronine may offer some hope of further improvement in slightly less than half of these cases.

Improvement was based on a comparison with the patient's previous response to thyroid medication, which was considered as a control period. Since desiccated thyroid is inexpensive and easy to administer, the newer triiodothyronine preparations would be preferable only if they resulted in greater benefit to the patients. A satisfactory response (+) was recorded when complete or definite improvement occurred on change to the new medication without annoying side effects. Slight benefit (±) indicated a diminution but persistence of symptoms. No benefit (0) indicated either no effect or that the patient became worse after the change of medication.

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*Trionine was supplied by Dr. R. J. Floody of Hoffmann-LaRoche, Inc., and Cytomel by Dr. H. A. Klusek of the Smith Kline and French Laboratories.

TABLE 1.—*Clinical and Laboratory Data on 30 Patients with Evidence of Hypothyroidism Who Were Treated with Triiodothyronine After Suboptimal Response to Thyroxin or Desiccated Thyroid.*

Case	Age and Sex		Significant Findings	Treatment	Maximum Dose	Duration	Studies				Benefit		Side Effects		Remarks and Conclusions
							BMR Per Cent	Cholesterol mg. per 100 cc.	PBI mcg. per 100 cc.	I^{131} Uptake Per Cent	*Tx.	TriTh.	Tx.	TriTh.	
1.	47 1953	F	Fatigue, mental sluggishness, and obesity while on thyroid.	Thyroid	260 mg. (4 gr.)	5 Yr.	— 5	165			0		0		Cytomel better than Trionine or thyroid.
				Cytomel	100 mcg.	3 Mo.						+		±	
				Trionine	200 mcg.	1 Mo.						0		+	
2.	42 1937	F	Fatigue, obesity, sensitivity to cold, dry skin, hair loss while on thyroid.	Thyroid	423 mg. (6.5 gr.)	19 Yr.	— 1	222 to 350	4.4-5.8	21 (after TSH)	±		±		ECG normal.
				Trionine	350 mcg.	8 Mo.		306	0.8			0		+	ECG low voltage; nervous 2 hr. after dose, "letdown" 4 hr. after. Thyroid better than Trionine.
3.	31 1937	M	Fatigue, constipation, drowsiness, impaired memory while on thyroid.	None			—24								Trionine no better than thyroid.
				Thyroid	260 mg. (4 gr.)	18 Yr.	— 8 to —22	215 to 330			±		±		
				Trionine	200 mcg.	10 Mo.						±		±	
4.	21 1954	F	Fatigue, metrorrhagia while on thyroid.	Thyroid	260 mg. (4 gr.)	6 Yr.	—18	191			±		0		Trionine not as good as thyroid.
				Trionine	150 mcg.	9 Mo.	+ 2	135				0		0	
5.	16 1956	M	Fatigue, poor grades in school, sensitivity to cold, weight gain while on thyroid.	None			—20, —27	183 to 200	2.0, 2.5						Trionine dramatically better than thyroid or Proloid.
				Thyroid or Proloid	325 mg. (5 gr.)	4 Yr.	— 7	175			0		0		
				Trionine	200 mcg.	9 Mo.						+		±	
6.	45 1953	F	Postoperative hypothyroid, fatigue, headaches, dry skin while on thyroid.	Thyroid	260 mg. (4 gr.)	4 Yr.	—16	220			±		0		Cytomel better than Trionine or thyroid, but comparable doses were not used.
				Trionine	200 mcg.	4 Mo.	—13	161				0		0	
				Cytomel	150 mcg.	4 Mo.						+		0	
7.	53 1953	F	Postoperative hypothyroid, side effects from thyroid, fatigue, pulse 60, puffy lids while on small doses of thyroid.	None			—12	225							Trionine plus thyroxin better than either Trionine, Proloid or desiccated thyroid alone.
				Proloid	130 mg. (2 gr.)	1 Yr.					0		+		
				Trionine	75 mcg.	2 Mo.	—19	191				0		+	
				Trionine & Thyroxin	50 mcg. + 0.5 mg.	2 Mo.	+ 4	170				+		0	
8.	45 1949	F	Menorrhagia, fatigue, dry skin, pallor.	None			—22	233							Trionine not as effective as thyroid.
				Thyroid	260 mg. (4 gr.)	6 Yr.	— 7 to —18	205 to 295			±		0		
				Trionine	200 mcg.	3 Mo.						0		0	
9.	43 1949	F	Muscle cramps, irregular periods, tachycardia, dry skin.	None			—14								Trionine not as effective as thyroid.
				Thyroid	325 mg. (5 gr.)	7 Yr.					±		0		
				Trionine	250 mcg.	5 Mo.						0		0	
10.	34 1955	F	Fatigue, sensitivity to cold, puffy lids. Hashimoto's Struma with postoperative hypothyroid while on thyroid.	None			—27		3.1						Cytomel not as effective as Proloid.
				Proloid	130 mg. (2 gr.)	2 Yr.	— 2 to —18	170			±		0		
				Cytomel	25 mcg.	4 Mo.						0		+	
11.	18 1956	F	Fatigue, constipation, irregular periods while on thyroid.	None			—45	153							Neither Cytomel nor Trionine more effective than thyroid. Cytomel dose small.
				Thyroid	325 mg. (5 gr.)	7 Yr.	—16				0		0		
				Cytomel	25 mcg.	3 Mo.						0		0	
				Trionine	250 mcg.	2 Mo.						0		0	
12.	45 1956	M	Fatigue, dry skin, constipation while on thyroid.	None			—21 to —17	220	2.5						Trionine plus Synthroid better than Trionine or thyroid alone or Cytomel plus Synthroid.
				Thyroid	325 mg. (5 gr.)	7 Yr.					0		0		
				Trionine	200 mcg.	6 Mo.						0		0	
				Trionine & Synthroid	200 mcg. 0.1 mg.	4 Mo.						+		0	
				Cytomel & Synthroid	100 mcg. 0.1 mg.	2 Mo.						0		0	
13.	46 1955	F	Postoperative hypothyroid, dry skin, dyspnea while on thyroid.	None			—25								Cytomel no better than thyroid.
				Thyroid	260 mg. (4 gr.)	3 Yr.	—10 to —27	170			±		0		
				Cytomel	100 mcg.	2 Mo.						0		0	
14.	18 1947	F	Obesity, fatigue, slow pulse, dry skin, mentally sluggish.	None			— 9 to —18	220, 233							Trionine better than thyroid.
				Thyroid	260 mg. (4 gr.)	4 Yr.	—11, +6	233			0		0		
				Trionine	150 mcg.	4 Mo.						+		0	

15.	45 1955	F	Fatigue, obesity, edema, dry skin while on thyroid.	Thyroid	390 mg. (6 gr.)	25 Yr.					0		0		Only temporary benefit from Trionine. Trionine plus thyroid most effective.
				Trionine	300 mcg.	1 Yr.	+18	149				0		0	
				Trionine & Thyroid	300 mcg. 120 mg. (2 gr.)	3 Mo.	+ 7	149			+		0		
16.	64 1955	F	Obesity, dry skin, puffy lids while on thyroid.	None			—16	185							Cytomel better than thyroid or Trionine.
				Thyroid	162 mg. (2.5 gr.)	1½ Yr.					0		+		
				Cytomel	75 mcg.	3 Mo.						+		0	
				Trionine	150 mcg.	3 Mo.						0		0	
17.	14 1954	F	Obesity, fatigue, irregular periods, rough skin.	None			—19	165							Cytomel originally beneficial but later had no effect.
				Thyroid	260 mg. (4 gr.)	1 1/3 Yr.	—11	153			0		0		
				Cytomel	75 mcg.	10 Mo.						0		0	
18.	16 1953	F	Obesity, nervousness, irregular periods, slow pulse.	None			—28	207							Trionine no better than thyroid.
				Thyroid	260 mg. (4 gr.)	2½ Yr.	— 8 to —30	230			0		0		
				Trionine	150 mcg.	5 Mo.						0		0	
19.	51 1954	M	Fatigue.	None			—30	191							Trionine no better than thyroid. Trionine caused marked headaches and nervousness.
				Thyroid	260 mg. (4 gr.)	2 Yr.	—29	215			0		0		
				Trionine	150 mcg.	4 Mo.						0		+	
20.	32 1955	F	Fatigue, obesity, constipation, vertigo.	Thyroid	260 mg. (4 gr.)	1 Yr.	—26	181			0		0		Cytomel or Trionine no better than thyroid. Cytomel plus thyroid slightly better than either alone.
				Cytomel	75 mcg.	3 Mo.	—34	217				0		0	
				Trionine	150 mcg.	1 Mo.						0		0	
				Cytomel & Thyroid	50 mcg. 260 mg. (4 gr.)	11 Mo.	— 3	205			±		0		
21.	19 1954	F	Obesity, had taken thyroid for ten years.	Thyroid	195 mg. (3 gr.)	11 Yr.	+ 2 to —16	120			0		0		Trionine better than thyroid.
				Trionine	150 mcg.	6 Mo.	—13					+		0	
22.	49 1955	F	Fatigue, dry skin.	None			—13	220							Both Trionine and thyroid produced side effects without apparent benefit.
				Thyroid	65 mg. (1 gr.)	7 Mo.	+ 9		5		0		+		
				Trionine	50 mcg.	1 Mo.						0		+	
23.	42 1952	F	Fatigue, numbness, sensitivity to cold, slow reflexes, thin brows.	None			—17, —24	219, 263	3.2	39					Both Trionine and thyroid caused side effects without apparent benefit.
				Thyroid	32 mg. (0.5 gr.)	2 Mo.					0		+		
				Trionine	25 mcg.	3 Days						0		+	
24.	47 1955	F	Fatigue, weakness, sensitivity to cold, slow pulse, puffy lids, slow reflexes, low voltage of ECG while on thyroid.	None						3.1 & 1.1 (after TSH)					Slight response to Trionine or thyroid.
				Thyroid	260 mg. (4 gr.)	7 Yr.		135	3.3		±		0		
				Trionine	200 mcg.	5 Mo.		241				±		0	
25.	54 1954	F	Postoperative hypothyroid, fatigue, nervousness, weight gain while on thyroid.	Thyroid	260 mg. (4 gr.)	12 Yr.	+ 5	226	5.9	18 (after TSH)	±		±		Trionine caused more side effects and not as beneficial as thyroid.
				Trionine	200 mcg.	5 Mo.	+38	295				0		+	
26.	38 1951	F	Obesity, rough skin, fatigue while on thyroid.	None			—35								Cytomel much better than thyroid.
				Thyroid	520 mg. (8 gr.)	20 Yr.	—17 to +50	153			0		+		
				Cytomel	75 mcg.	2 Mo.						+		0	
27.	39 1937	F	Obesity, fatigue, headaches, rough skin, coarse hair while on thyroid.	None			—18 to —32								Side effects from small doses of thyroid. Cytomel better than thyroid.
				Thyroid	65 mg. (1 gr.)	35 Yr.	— 5 to —16	215			0		+		
				Cytomel	50 mcg.	4 Mo.						+		0	
28.	37 1956	F	Fatigue, dry skin while on thyroid.	None			—10 to —21	260	3.3						Cytomel and thyroid better than thyroid alone.
				Thyroid	520 mg. (8 gr.)	8 Yr.	+15				±		+		
				Thyroid & Cytomel	180 mg. (3 gr.) 25 mcg.	3 Mo.					+		0		
29.	48 1955	F	Fatigue.	None			—17 to —30	205							Cytomel better than thyroid.
				Thyroid	195 mg. (3 gr.)	14 Mo.	—19	165			±		0		
				Cytomel	75 mcg.	2 Mo.	— 8					+		±	
30.	24	F	Fatigue, listlessness, obese, dry skin while on thyroid.	None			—30			0 & 1 (after TSH)					Thyroid better than Trionine and fewer side effects.
				Thyroid	422 mg. (6.5 gr.)	16 Yr.	+10, +38	190	2.1		±		±		
				Trionine	200 mcg.	4 Mo.						0		+	

*Tx. represents dessicated thyroid, thyroxin or similar preparations.
TriTh. represents triiodothyronine.

+ = Satisfactory response. ± = Slight benefit. O = No effect or patient became worse.
(When symbol is midway between columns, it applies to a combination of both drugs.)

PBI = Protein-bound iodine.
BMR = Basal metabolic rate.

TSH = Thyroid stimulating hormone.

Laboratory studies were not helpful in predicting or judging response to therapy. Five patients with satisfactory response all had normal basal metabolic rates and four had serum cholesterol content within normal limits. Serum cholesterol was determined in four of five others who did not respond; three of them had normal levels, and the basal metabolic rate was normal in one of the three patients tested. The protein-bound iodine and radioiodine uptake are not reliable tests during triiodothyronine therapy.

In general, a beneficial result was associated with an improvement in the basal metabolic rate and cholesterol content if these were initially abnormal or borderline. If the tests were initially normal, improvement occasionally occurred without a change in the measurable thyroid function. The criteria for improvement were based mainly on the effect on symptoms and physical findings. This clinical improvement seemed definite and at times dramatic in previously unresponsive and difficult patients. The possibility that improvement was due to suggestion was considered but seemed unlikely because most of the patients had been observed for long periods while taking thyroid medication of other types and had not had significant improvement.

In this series, results were somewhat better with the levo isomer, but the number of patients is too small to permit drawing definite conclusions in this regard.

Four of the five patients who received combination therapy showed definite improvement. It seems possible that the slower and smoother action of desiccated thyroid or thyroxin was improved by the added rapid stimulatory effect of triiodothyronine.

We recognize that this group of patients probably represents a mixture of several conditions, including hypothyroidism, hypometabolism without myxedema, and functional complaints not related to hypometabolism. Since fewer than half showed improvement over the effects of previous therapy, a careful analysis of the symptoms, physical findings and laboratory results was made. However, no common factor was found which would be helpful in predicting which patients would be improved by a change to or addition of triiodothyronine (which costs more). Improvement did occur often enough to suggest that a therapeutic trial with triiodothyronine is worthwhile in patients who apparently need desiccated thyroid but do not have satisfactory response to it.

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No. 1 Killer

The National Safety Council has put one automobile man among its 33 trustees and one among its 44 directors. Yet motor vehicles account for 42 per cent of all fatal accidents.

Cigarette Smoke

Its Effect on Pulmonary Function Measurements

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• Inhaling cigarette smoke with each breath, with the subject at rest, by use of a smoking device that brought more smoke into the lungs than would be the case in ordinary smoking, produced consistent significant decreases in arterial blood oxygen saturation and in arterial pO_2 in most subjects who had severe or very severe pulmonary emphysema. In normal subjects and in those with a moderate degree of emphysema no significant changes in blood gas exchange resulted.

No consistent significant changes in blood gas exchange were noted after the smoking of two cigarettes, either with the subject at rest or after a one-minute step-up exercise.

A decrease in oxygen uptake occurred when treadmill exercise was done after smoking two cigarettes, and the ventilation volume was also decreased, probably accounting for part of the oxygen decrease.

Pulmonary compliance measurements after smoking one cigarette were consistently and significantly decreased in most subjects—normal as well as those with pulmonary emphysema. The elastic work of breathing was increased in the majority of cases.

In two cases in which studies were done after the subjects stopped smoking, one for three months and one for two years, significant reductions in residual air were noted.

The results indicated that persons with severe or very severe emphysema would be better off to stop smoking.

THE RELATIONSHIP of chronic pulmonary disease, such as emphysema, and smoking is of particular interest in the Cardio-Respiratory Laboratory of the University of Southern California School of Medicine. A very high incidence of cigarette smoking has been noted commonly in the history of patients with severe emphysema when there was no apparent cause for the emphysema, such as a history of exposure to silica, asbestos, diatomaceous earth or other known irritating dusts, or a history of having had tuberculosis, asthma or some other chronic pulmonary disease.

Some physicians have arbitrarily ordered patients to stop smoking as part of the management of pulmonary emphysema. On the other hand, other physicians do not even advise patients with emphysema to stop smoking.

The Cardio-Respiratory Laboratory is frequently asked for an opinion as to whether or not a patient should stop smoking, and if so, what is the objective evidence. If pulmonary function measurements were to show definite and significant changes impairing lung function as the result of smoking, then it would be much easier to convince patients with emphysema that they should give up smoking.

Pulmonary emphysema may be the result of several factors and the evaluation of the importance of each one may be quite difficult. The present study was set up to explore the practical tests of pulmonary function which might be used to assess acute changes which could be induced by smoking one or two cigarettes, and thus permitting each subject to serve as his own control. The subjects studied were all smokers and the group included persons without disease and patients with chronic pulmonary disease of varying degrees of severity, especially pulmonary emphysema and pulmonary fibrosis. The subjects were advised to abstain from smoking from four to six hours before the tests of function were to be done, and in a few cases for as long as twenty-four hours. A longer time interval without smoking would be desirable; and it would also be helpful to obtain studies before and during the period of abstinence, and after resuming smoking. However, obtaining volunteers for such restrictions would be difficult. In two cases, follow-up studies were obtained after longer time intervals, as the patients decided to stop smoking; and as far as could be determined, no medication had been taken during this time which might be a factor in altering the pulmonary function measurements.

METHODS

All the subjects—125 men and 16 women—were fasting and in an essentially basal state at the time of the studies. The ages ranged from 24 to 70 years. Each of the subjects had a complete pulmonary function evaluation including lung volume de-

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terminations and blood gas exchange measurements while at rest and after exercise (except for three subjects who had heart disease and one normal subject).

Spirogram recordings on the 13.5 liter respirometer were made to determine the total vital capacity, the timed vital capacity for three seconds and the maximal breathing capacity, before and after administration of a bronchodilator drug.[12] Residual air was measured by the oxygen open circuit method and the helium closed circuit method.[13] The residual measurements were made with the subject supine in a fasting and resting state. The alveolar nitrogen sample was taken just above the mouthpiece after seven minutes of oxygen breathing. In a few cases, the nitrogen curve was obtained after a single deep breath of oxygen, using the nitrogen meter. The nitrogen wash-out was also obtained in a few of these subjects with the nitrogen meter with continuous recordings. All lung volume measurements were expressed at body temperature, pressure saturated (BTPS).

Arterial blood samples were obtained through an indwelling needle from the brachial artery, at rest and immediately after exercise. Oxygen content and capacity and carbon dioxide content determinations were made in duplicate by two trained technicians using different manometric Van Slyke analyzers and were repeated unless the results were close together. The arterial blood oxygen saturation (as per cent) was also determined on the Water's oximeter, double scale cuvette with the use of whole blood. The cuvette was calibrated daily against the Van Slyke analyzers, and in this laboratory it has been found very satisfactory, the results consistently staying within one per cent of the Van Slyke measurements when properly calibrated. The pH was measured on a Cambridge glass electrode. The arterial partial pressure oxygen (pO_2) and partial pressure carbon dioxide (pCO_2) were determined by the direct bubble tension method described by Riley.[15]

Oxygen uptake and carbon dioxide output were calculated from the percentage of oxygen and carbon dioxide in the expired air, as determined in a Scholander gas analyzer. The step-up exercise consisted of stepping up and down on a stool, 20 cm. high, 30 times in one minute; and the treadmill exercise was walking, level, at a rate of two miles per hour. The minute ventilation volume was measured during the basal rest period and during the one minute of step-up exercise, or during the sampling period on the treadmill after five minutes or more of walking. The minute ventilation and the oxygen uptake were expressed at standard temperature and pressure as liters per minute, or milliliters per minute per square meter of body surface area ($ml./min./M^2$, BSA). The alveolar pO_2 was calculated from the values obtained for arterial pO_2, the arterial pCO_2 and the respiratory quotient. The effective tidal air was calculated from the expired pCO_2 and the arterial pCO_2 using the average tidal volume. Hemoglobin was determined both by the oxygen capacity method and by converting all the hemoglobin to cyanmethemoglobin[8] and measuring light absorption at 540 mu. on the Beckman DU spectrophotometer.

Measurements of pulmonary compliance were determined by the continuous cycling method with modifications.[9] The recording device consisted of a 6-liter Benedict-Roth metabolism apparatus equipped with a helipot for volume changes. A blower was provided in the circuit to circulate the air, and all valves were removed to reduce breathing resistance. Oxygen was added to the system and the CO_2 was absorbed. Volume and pressure changes were recorded on a DuMont cathode ray oscilloscope through a compliance control apparatus employing a capacity transducer in a radio frequency circuit. The loop was interrupted by means of a blanking generator which allowed time measurements of 5, 10, 15 and 20 cycles per second intervals. In addition, the points at which there was no flow were determined by a flow-sensitive zero pressure device which produced blips on the oscilloscope at the end of expiration and inspiration. A balloon as described by Crane[7] was used to measure the intra-esophageal pressure at its mid-position. The loop was then photographed with a polaroid Land camera. The patients were studied in the sitting position during spontaneous quiet breathing before and immediately after smoking one cigarette.

PROCEDURE AND SUBJECT MATERIAL

Studies were obtained on nine patients, all except two with severe pulmonary emphysema, in the supine position after smoking two cigarettes. The amount of smoke inhaled varied widely between different subjects during the smoking of two cigarettes; some inhaled deeply, others hardly at all.

It was felt that the acute effects of cigarette smoke on the lung could be intensified by the use of a smoking device so that with each breath some smoke would be inhaled in the lung with the respiratory gases. The subject was connected by a mouthpiece to a two-way directional valve which was connected on the intake side to a Douglas bag containing air on one side of a "Y" tube and on the other side containing a cigarette holder with a lighted cigarette. By the use of a three-way valve attached to the Douglas bag, the resistance could be varied so that a small amount of air with each breath was directed through the cigarette, with a resulting glow during inspiration. The expired air was collected in a Tissot gasometer and the smoke was quite visible in the expired air from the subject.

In some subjects the inhaled smoke produced a sensation of burning, particularly on the posterior pharynx, and in a few it caused cough. Other subjects, most commonly heavy smokers with a history of smoking for many years, said that they were not aware that they were even getting smoke with the device. The use of the smoking device in the closed circuit insured that the smoke was distributed in the lung, so that the effect of smoke on the lung with respect to blood gas exchange could be studied. In all instances, the patients were allowed to smoke the cigarette of choice if they had their own. The rate of smoking was set so that usually it took about three to five minutes to completely smoke one cigarette, and in most instances at least 90 per cent of the cigarette was smoked. Fifty subjects were studied during the smoking of one cigarette, and these subjects were divided into three groups according to the severity of the pulmonary emphysema present. There were 23 cases in which the emphysema was insignificant, eight in which there was a moderate degree of emphysema and 19 in which it was severe or very severe (residual air greater than 45 per cent of total lung capacity).

Pulmonary compliance measurements were obtained on 41 subjects. In these subjects the residual per cent of total lung capacity had been determined (with the exception of three subjects who had cardiac disease and one who was normal). The vital capacity was determined in most of the subjects before and after smoking, utilizing the usual volume recording apparatus, but with the subjects in the sitting position. Compliance and the elastic work of breathing were the two specific measurements obtained at this study, and these data were correlated with the severity of the emphysema as measured by the residual per cent of total lung capacity, the ventilation factor, the resting arterial pO_2 and the vital capacity, before and after smoking.

A group of fifty subjects had blood gas exchange measurements made before and after smoking, using the one minute step-up exercise test. This group of fifty subjects was divided into three classes, depending on the severity of the emphysema. There were 19 with an insignificant degree of emphysema, 16 with a moderate degree of emphysema and 15 with a severe or very severe degree of pulmonary emphysema. The second exercise test was performed immediately after smoking two cigarettes and the measurements were compared to those of the first test. In 21 cases, treadmill exercise was used instead of step-up exercise, and the blood gas exchange measurements before and after smoking two cigarettes were compared.

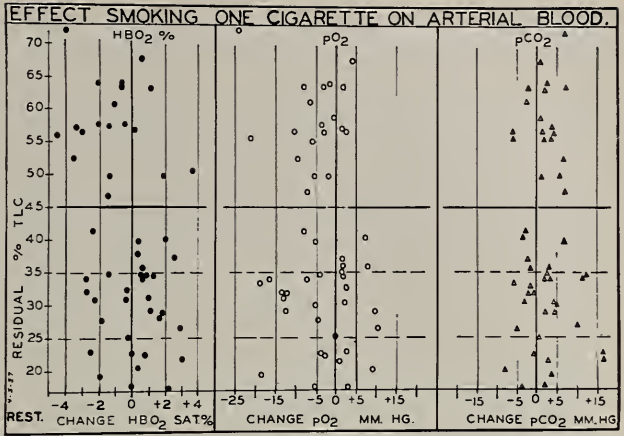

Chart 1.—Correlation of the residual per cent of total lung capacity with the change during the smoking of one cigarette with the smoking device, at rest, on: (1) Arterial blood oxygen saturation (HbO_2 saturation, per cent, (2) arterial pO_2, and (3) pCO_2 in mm. Hg., both by direct tension measurement. TLC (total lung capacity), HbO_2 per cent (arterial oxygen saturation, per cent), pO_2 (partial pressure oxygen), pCO_2 (partial pressure carbon dioxide). Measurements on 50 cases.

RESULTS

Blood gas studies in the supine position before and after smoking two cigarettes were obtained in nine subjects, seven of whom had severe emphysema. There was no significant average difference after smoking in the group, as shown by the arterial blood or the pulmonary ventilation measurements.* There was a slight increase in the pulse rate, but no significant change in the respiratory rate. In one subject at rest there was a significant decrease (—6.5 per cent) in the arterial blood oxygen saturation after smoking. This subject had a very severe degree of emphysema, and following the smoking the pulse rate, respiration rate and minute ventilation were significantly increased, but the arterial pO_2 was decreased from 73.5 to 56.1 mm. of mercury.

The smoking device with the closed circuit was next used in the supine position to insure that the smoke from the cigarette got into the lung. The data using the smoking device were compared in summary form by three groups based on the severity of the emphysema. There was no significant change in the arterial blood oxygen saturations before and after smoking either in the nonemphysema group or in the group with a moderate degree of emphysema. However, in the severe emphysema group there was an average decrease in the arterial blood oxygen saturation from 90.7 per cent at rest to 88.6 per cent after smoking. The changes in the arterial blood saturation before and after smoking have been plotted for each case on a basis of the severity of the emphysema as measured by the residual per cent of total lung capacity (Chart 1). It can be noted that none of the subjects with a residual per cent of total lung capacity below 45 per cent had significant change. In some the saturation was increased a little and in others it was decreased. However, in this group of 19 subjects with severe or very severe pulmonary emphysema there was definitely a decrease in the saturation after smoking, a decrease occurring in 14 and an increase in four, with no change in one. The standard deviation for the 19 subjects was ±1.96 per cent with a standard error of 0.45 per cent. In a similar manner, the arterial pO_2, as determined by direct tension measurement, was correlated with the severity of the pulmonary emphysema (Chart 1), and a consistent decrease was present only in subjects with a residual ratio greater than 45 per cent of total lung capacity (decreased in all except four). The standard deviation of the arterial pO_2 was ±7.6 mm. of mercury with a standard error of 1.7 mm. of mercury. When the arterial pCO_2 was correlated with the residual per cent of total lung capacity, it was noted that in the emphysema group in all except four cases there was an increase after smoking. The standard deviation of the arterial pCO_2 was ±2.0 mm. of mercury with a standard error of 0.9 mm. There was no significant change in the arterial CO_2 content or pH after smoking with the smoking device. Also the alveolar-arterial pO_2 difference was not significantly changed after smoking. The mean alveolar pO_2 was calculated from the arterial pCO_2, the arterial pO_2 and the respiratory quotient. There was no significant change in the tidal volume or the effective tidal air with smoking, or in the oxygen uptake, the CO_2 output or the per cent of oxygen extracted from the inspired air breathed, using the smoking device.

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*More detailed data in tabular form will be published in the reprint of this paper.

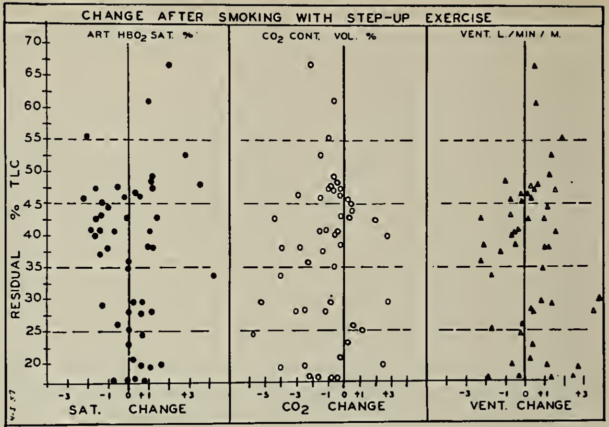

Chart 2.—Correlation of the residual per cent of total lung capacity with the change after smoking two cigarettes in the usual manner on the one minute step-up exercise measurements of: (1) Arterial blood oxygen saturation, (2) arterial CO_2 content and (3) the volume of pulmonary ventilation (liters per minute per square meter of body surface area). Measurements on 50 cases.

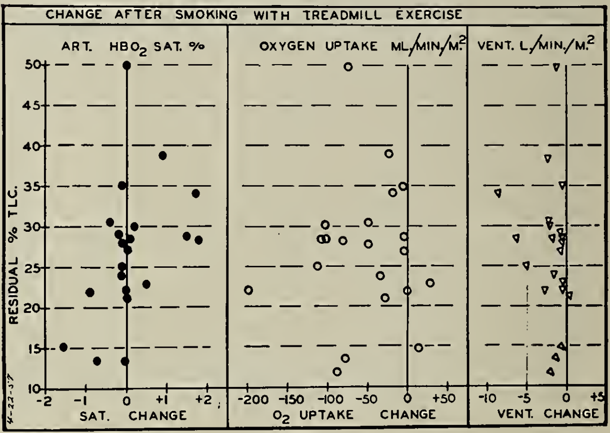

Chart 3.—Correlation of the residual per cent of total lung capacity with the change after smoking two cigarettes in the usual manner on treadmill exercise measurements of: (1) Arterial blood oxygen saturation, (2) oxygen uptake, and (3) the volume of pulmonary ventilation (liters per minute per square meter, body surface area). Measurements on 21 cases.

The blood gas measurements with step-up exercises before and after smoking two cigarettes were studied in 50 cases. The changes, after smoking, in the arterial blood oxygen saturation, in the CO_2 content in volumes per cent and in the minute ventilation (in liters per minute per square meter of body surface area) are correlated with the residual per cent of total lung capacity in Chart 2. The subjects smoked two cigarettes while in the sitting position following the first step-up exercise. A few had reactions, possibly related to the fasting state. These reactions consisted of feeling dizzy or weak, and a few subjects had headache, sweating and tachycardia. If the subject had a reaction following the smoking, a rest period of a few minutes was given and then the second exercise was started. In practically all cases, the subjects felt better after the exercise. A few of the subjects complained that the cigarette did not taste good. In none of the three groups of subjects with varying degrees of emphysema was there significant change in the arterial blood oxygen saturation (Chart 2). Nor was there correlation between the change in arterial blood oxygen saturation after smoking and the residual per cent of total lung capacity. There was no significant change in the arterial CO_2 content and pH, before and after smoking with step-up exercise. The arterial pulse was consistently increased after smoking and the respiratory rate was increased slightly. A slight increase was noted in the average minute ventilation and oxygen uptake after smoking with step-up exercise. The data on individual subjects as to the CO_2 content change after smoking with step-up exercise revealed a tendency toward a decrease

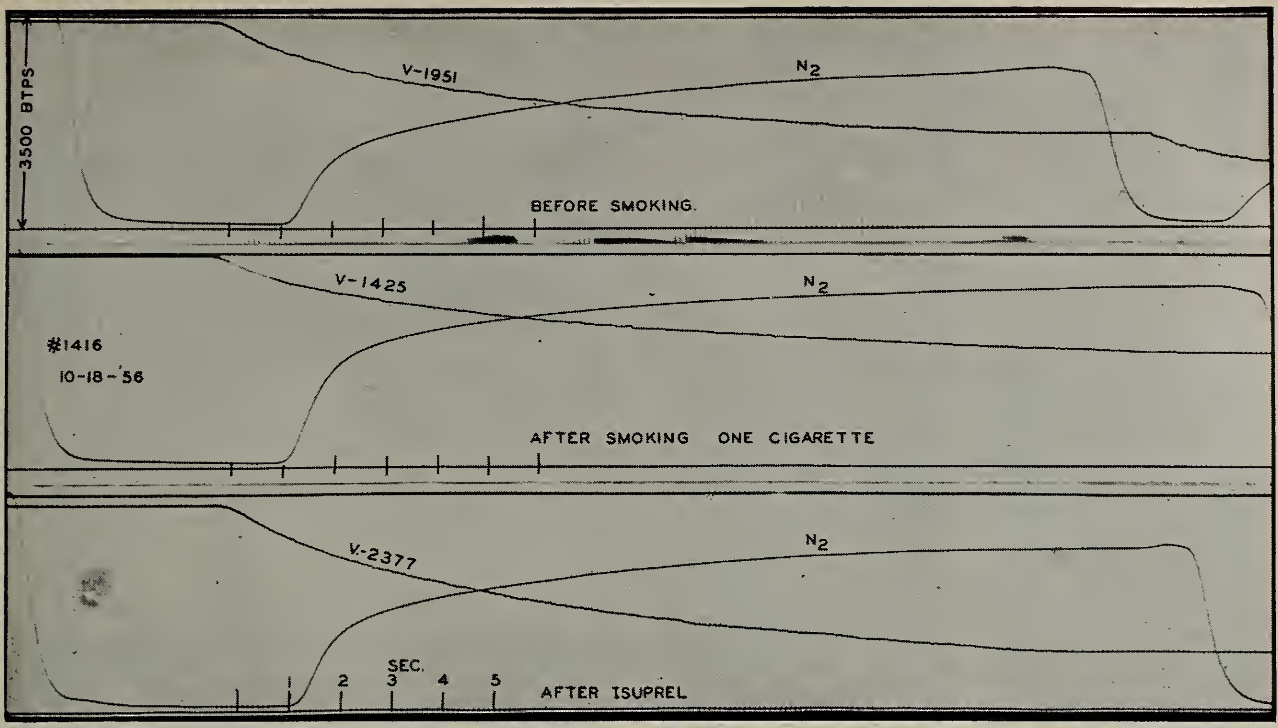

Chart 4.—The nitrogen curve (labeled N_2) and the corresponding volume (V) and flow during exhalation (total recorded as ml.) in a patient with severe emphysema, obtained by taking a single deep breath of oxygen and then blowing out as far as possible. The nitrogen was recorded from a nitrogen meter and the volume from the 13.5-liter Collins respirometer with a helipot to convert volume to electrical output. Impaired intrapulmonary mixing gives a prolonged sloping curve upward as shown in N_2 curve before smoking. After smoking the N_2 mixing curve was slightly improved (middle tracing) although the volume of the deep breath was reduced (vital capacity). After bronchodilator isuprel the vital capacity was significantly increased (V from 1425 to 2377 ml.) although the N_2 curve was not improved. Lung volume measurements are expressed at body temperature, pressure saturated (BTPS).

in CO_2. However, this was probably correlated with a slight increase noted in the minute ventilation (Chart 2). The average tidal volume was increased slightly after smoking.

Blood gas studies were obtained before and after smoking and treadmill exercise in 21 cases. The arterial blood oxygen saturation, the oxygen uptake in ml./min./M^2 BSA, and the ventilation as L./min./M^2 BSA are correlated with the residual per cent of total lung capacity for the 21 cases (Chart 3). There was no significant change in the arterial blood oxygen saturation after smoking. However, the oxygen uptake on exercise was decreased an average of from 565 to 516 ml./min./M^2 BSA after smoking. The standard deviation for the change in oxygen uptake on exercise was ±53 ml. with a standard error of 11.5 ml. There was also an average ventilation change after smoking (Chart 3). The average minute ventilation was decreased from 13.05 to 11.62 L./min./M^2 BSA. The decrease in the oxygen uptake on exercise may be related in part to the decrease in the minute ventilation. However, no such decrease in minute ventilation was noted during step-up exercise after smoking two cigarettes. Direct tension measurements of arterial pO_2 and pCO_2 in the group of cases with treadmill exercises revealed no significant changes. The effective tidal air, computed on the basis of the expired pCO_2 and the arterial pCO_2, was not significantly changed in this group.

In several cases of severe emphysema, the single deep breath technique of oxygen with continuous recording of nitrogen on the nitrogen meter was employed and the volume of exhalation measured by electrical recording (Chart 4). No significant change in the air distribution as judged from the shape of the nitrogen curve was noted after smoking, even though the vital capacity usually showed some reduction. Although treatment with bronchodilator drugs after the smoking test increased the vital capacity significantly, the shape of the nitrogen curve was not improved.

In 41 subjects who smoked regularly the effect of one cigarette on pulmonary compliance was determined. The group consisted of eight normal persons and 33 patients with varying degrees of cardiorespiratory insufficiency as determined by complete pulmonary function studies. The pulmonary compliance was determined by a modification of the continuous cycling method, and timed pressure-volume loops were obtained over the range of quiet respiration. Pressure determinations were obtained by means of an esophageal balloon placed in the mid-esophagus. The resting compliance determination was obtained after the patient smoked a cigarette of his choice. There were no variations in the level of the balloon, the amount of air in the balloon or the position of the patient (variables that are known to affect the results in determining pulmonary compliance).

Vital capacity was also determined on most of the patients before and after smoking, utilizing the

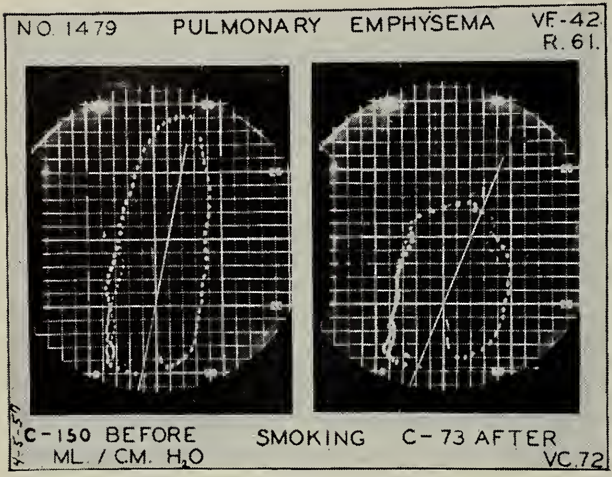

Chart 5(a).—Pulmonary compliance measurements before and after smoking one cigarette in the sitting position in a patient with severe emphysema (residual 61.0 per cent of total lung capacity (R), total vital capacity (VC) 72.0 per cent of normal, predicted and ventilation factor (VF) 42.0 per cent). Volume is recorded on the vertical axis and pressure on the horizontal axis. The interruption of the tracing permits timing, as the oscilloscope beam moves around counter clockwise, describing a complete loop for each respiratory cycle. The blip at the bottom is the no flow point at the end of expiration and the blip at the top the no flow point at the end of inspiration. The sloping line connects the points of no flow at the end of inspiration and expiration. Compliance (C) 150 ml./cm. H_2O before smoking and 73 ml/cm. H_2O after smoking.

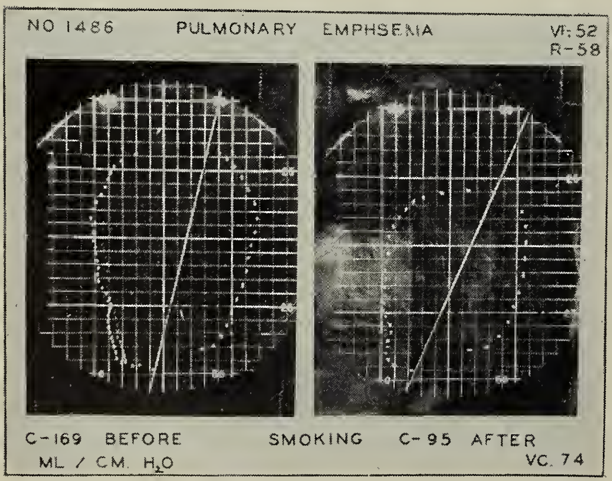

Chart 5(b).—Same as in Chart 5(a) except in a patient with a residual of 58.0 per cent of total lung capacity, total vital capacity 74.0 per cent of normal predicted and ventilation factor 52 per cent. Compliance 169 ml./cm. H_2O before smoking and 95 after.

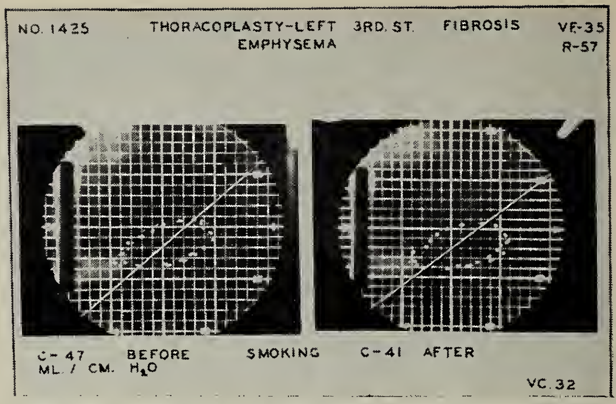

Chart 5(c).—Same as in Chart 5(a) except in a patient with fibrosis and emphysema and left thoracoplasty with a residual 57.0 per cent of total lung capacity, total vital capacity 32.0 per cent of normal predicted and a ventilation factor of 35 per cent. Compliance 47 ml./cm. H_2O before smoking and 41 after.

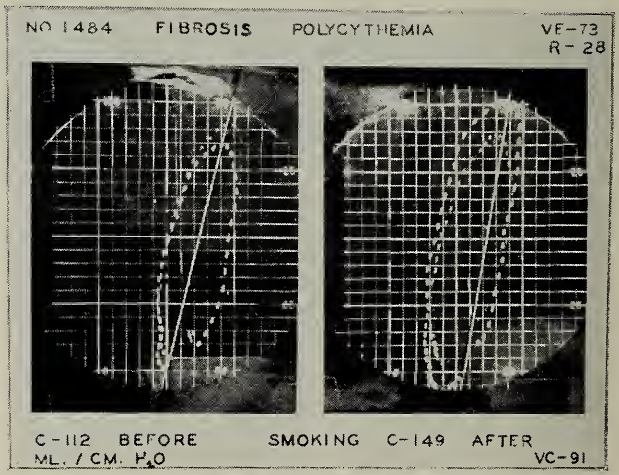

Chart 5(d).—Same as in Chart 5(a) except in a patient with fibrosis (x-ray) and polycythemia, with a residual of 28.0 per cent of total lung capacity, total vital capacity 91.0 per cent of normal predicted and ventilation factor 73.0 per cent. Compliance 112 ml./cm. H_2O before smoking and 149 after.

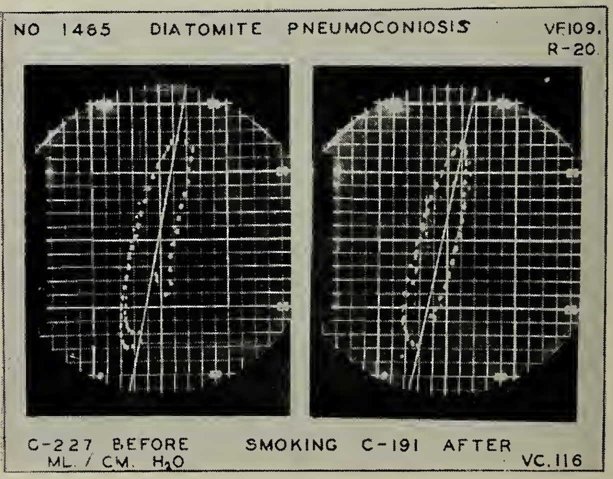

Chart 5(e).—Same as in Chart 5(a) except in a diatomite worker with a residual of 20.0 per cent of total lung capacity, total vital capacity 116.0 per cent of normal predicted and ventilation factor 109 per cent. Compliance 227 ml./cm. H_2O before smoking and 191 after.

TABLE 1.—*Effect of Cigarette Smoking on Pulmonary Compliance Measurements*

Case No.	Residual Per Cent of Total Lung Capacity	Ventilation Factor Per Cent	Resting Arterial pO_2 mm. Hg.	Sitting Vital Capacity		Compliance, ml./cm. H_2O		Elastic Work Breathing gm. M/liter of Ventilation	
				Per Cent Normal Predicted	Per Cent Change with Smoking	Observed	Change with Smoking	Observed Rest	Change with Smoking
1	61	42	75.6	73	— 5	130	— 73	45.00	+ 9.50
2	56	40	74.5	77	—16	83	— 22	57.50	+16.00
3	36	65	82.5	79	— 4	109	— 8	30.50	+21.50
4*	31	88	87.2	96	— 7	241	—131	17.50	+15.50
5	40	64	80.7	91	+ 1	169	— 15	27.50	+ 5.00
6	53	53	....	61	+ 8	168	— 26	32.00	+ 8.00
7	57	43	81.0	75	....	147	— 79	41.00	+13.50
8	35	64	92.1	41	—11	239	— 83	21.50	+ 5.50
9	23	100	97.5	92	—12	187	— 72	12.50	+ 7.50
10	48	55	87.3	60	....	48	+ 2	66.50	+12.50
11	43	69	81.8	95	....	96	— 11	43.00	0
12	67	61	85.6	60	....	179	....	18.00	— 5.00
13	62	32	....	54	....	153	— 50	15.50	+12.00
14	64	31	49.1	50	....	24	+ 3	12.00	— 1.50
15*	19	111	108.1	100	....	91	— 14	42.50	— 4.50
16	25	87	73.6	59	....	80	+ 24	38.50	—13.00
17	33	73	94.0	98	....	224	—109	16.50	+24.00
18	53	46	56.1	64	....	109	+ 56	22.00	— 3.50
19*	16	....	....	98	— 5	152	— 65	17.50	+19.50
20	57	44	63.0	30	—14	47	— 6	48.00	+ 5.00
21	....	....	....	95	— 2	143	— 57	28.50	+21.00
22*	18	114	90.2	116	— 1	297	— 28	8.00	— 2.00
23	59	31	66.4	62	—20	78	— 46	42.00	+10.50
24	48	55	91.3	83	+19	197	+ 19	27.50	— 5.00
25*	23	95	....	97	....	132	— 26	31.00	— 1.50
26	28	73	90.8	82	+ 4	115	+ 34	36.50	— 3.50
27*	20	109	102.0	110	— 3	239	— 49	23.50	+ 1.50
28	58	22	83.3	87	— 5	168	— 73	36.00	+18.00
29	29	71	....	67	+ 5	77	— 10	39.00	+ 1.50
30	....	....	....	63	+ 3	111	+ 25	45.00	—14.50
31	....	....	....	87	— 6	226	—108	23.50	0
32	32	72	....	102	....	267	— 56	21.50	— 5.50
33	66	29	59.9	66	— 8	77	— 15	34.50	— 7.00
34	31	86	88.5	80	+23	130	+ 44	18.00	+ 2.00
35	36	92	88.2	125	— 6	167	— 23	35.50	—10.50
36*	22	109	78.9	110	— 3	110	+ 21	38.00	— 7.50
37*	24	....	....	89	....	75	— 3	35.50	+ 9.00
38	....	....	....	75	— 5	111	— 6	50.50	0
39	44	66	....	86	—14	101	+ 1	86.50	— 7.50
40	68	32	75.6	29	—20	344	— 5	9.00	+ 2.00
41	24	89	84.6	92	+10	267	— 79	18.00	+23.50

*Normal subjects.

same volume recording apparatus with the patient in the sitting position. The elastic work of breathing was determined from the pressure-volume loop obtained at rest and again after smoking. Utilizing this method of determining pulmonary compliance in a group of normals, the mean pulmonary compliance was found to be 166 ml./cm. H_2O, with a range from 75 to 304 ml./cm. H_2O.

The results of the compliance studies shown in Table 1 and typical recordings are shown in Chart 5, a, b, c, d and e. There was a significant drop in pulmonary compliance in six of eight normal subjects in the study after smoking, with a mean decrease of 52 ml./cm. H_2O. In one subject no change was noted, while another had an increase of 21 ml./cm. H_2O. In the 33 patients with cardio-respiratory disease, 17 had a significant decrease in compliance after smoking. The maximum decrease was 109 ml./cm. H_2O with a mean of 57 ml./cm. H_2O. In ten patients no significant difference was noted between compliance while resting and while smoking. Six patients had a significant increase in compliance on smoking, with a maximum increase of 56 ml./cm. H_2O and a mean of 32 ml./cm. H_2O. There was no correlation of compliance change with the residual per cent of total lung capacity (Chart 6), as there were significant decreases in the group of normal subjects as well as in the emphysema group. On the whole, smoking tended to decrease compliance in the normal as well as in the emphysema group. The sitting vital capacity was decreased on an average 8.4 per cent in 20 cases after smoking one cigarette, and was increased 9.1 per cent in eight cases (Table 1).

The elastic work of breathing expressed, as gram meter per liter (gm. M/L) of ventilation, was determined before and after smoking in the group of 41 subjects who were regular smokers. The eight normal subjects in the group had a mean value of 42.5 gm. M/L ventilation at rest. The 33 patients with cardio-respiratory impairment had a mean of 33.3 gm. M/L ventilation with a range from 9.0 gm. M/L ventilation to 86.5 gm. M/L ventilation. The values obtained for the elastic work of breathing by this method compare favorably with those reported elsewhere.[2,5,6,11,14]

After smoking, four of the normal subjects had an average increase of 15.0 gm. M/L ventilation in their elastic work of breathing while four had a decrease, the average for the group being 3.9 gm. M/L ventilation (Table 1 and Chart 7). In the group with cardio-respiratory impairment, 19 subjects had an increase, the average increase for the group being 11.5 gm. M/L ventilation. Eleven had a decrease, the average for the group being 6.95 gm. M/L ventilation. In three cases there was no change. The change in the elastic work of breathing after smoking was correlated with the residual per cent of total lung capacity (Chart 7). An increase in the elastic work of breathing after smoking was noted as often in the normal subjects as in those with severe emphysema. Similar changes were noted with regard to correlation with the ventilation factor. The elastic work of breathing is a static measurement, reflecting the elastic properties of the lung recorded at the instant of zero air-flow, and is therefore independent of time, but directly correlated to volume changes and rate of breathing. The elastic work of breathing was determined only at rest during normal tidal volume exchange.

No direct correlation was noted between the arterial pO_2 by direct tension measurements and changes in pulmonary compliance that were brought about by smoking. In 14 cases the arterial pO_2 after smoking showed a decrease; in four of them the compliance was increased, in two was unchanged and in eight was decreased (Table 1). In five subjects there was an increase in the arterial pO_2 after smoking; compliance was increased in two of them and decreased in three. In most of the subjects with a low compliance, there was a low arterial pO_2 also, although in some cases a low arterial pO_2 was associated with a normal compliance value.

There was a significant decrease in compliance after smoking in 56 per cent of the group, while 27 per cent showed no change and 17 per cent had an increase in compliance. Further studies of the effect of cigarette smoking on pulmonary compliance appear indicated in order to delineate the changes due to vascular effect, both in the greater and lesser circulation, and distinguish them from the direct effect on the respiratory mechanism.

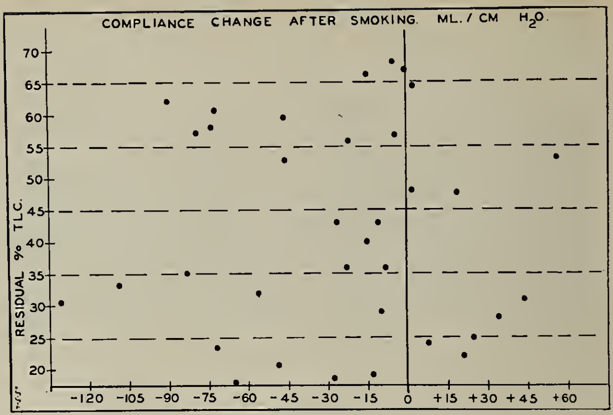

Chart 6.—Correlation of the residual per cent of total lung capacity with the change after smoking one cigarette in the usual manner on the pulmonary compliance measurement (milliliter volume change per centimeter H_2O pressure change). Pulmonary compliance change, ml./cm. H_2O, average mean —25, standard deviation ±39 and standard error 6.3.

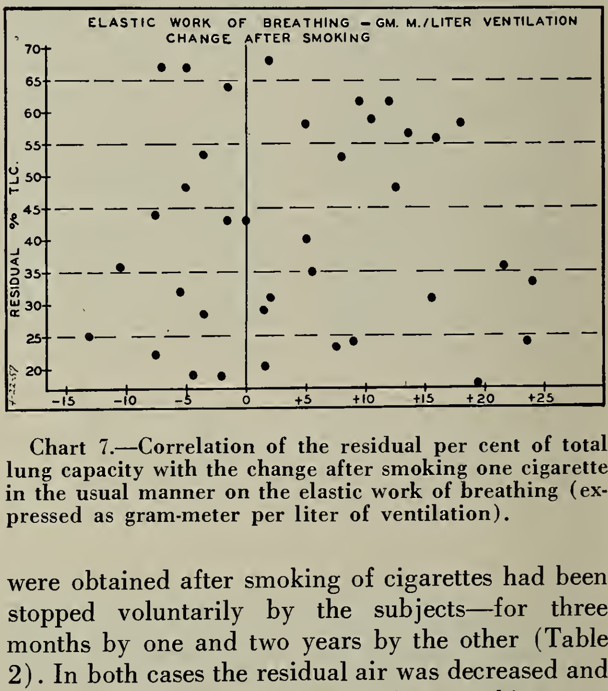

Chart 7.—Correlation of the residual per cent of total lung capacity with the change after smoking one cigarette in the usual manner on the elastic work of breathing (expressed as gram-meter per liter of ventilation).

In two cases follow-up studies of lung volume were obtained after smoking of cigarettes had been stopped voluntarily by the subjects—for three months by one and two years by the other (Table 2). In both cases the residual air was decreased and the vital capacity increased after smoking was stopped. The timed vital capacity for three seconds and the maximal breathing capacity increased slightly in one case and decreased in the other. The subject in whom the decreases were shown complained of having had, for several weeks, a bad cold which had subsided very slowly. Bronchospasm was demonstrated in both cases before and after smoking was stopped (Table 2).

DISCUSSION

Loomis[10] carried out studies that led to a conclusion that there is a bronchoconstrictor factor other than nicotine in cigarette smoke. Bickerman and

TABLE 2.—*Lung Volume Changes After Cigarette Smoking Stopped*

	A Woman, Age 42 Years, Body Surface Area 1.67 Square Meters			A Man, Age 67 Years, Body Surface Area 1.90 Square Meters		
Test	Predicted	Observed June 25, 1953	Observed April 2, 1956*	Predicted	Observed Jan. 1, 1956	Observed March 12, 1957*
Total vital capacity, ml	3453	2540 (74%)	3320 (96%)	4165	2899 (70%)	3642 (87%)
Timed vital capacity, 3 sec. ml	3453	1650 (48%)	1929 (56%)	4165	1739 (42%)	1293 (31%)
Maximal breathing capacity, L./min.:						
Initial	104	26.2 (26%)	32.2 (31%)	121	35.0 (29%)	27.1 (23%)
After isuprel	104	48.0 (47%)	47.0 (46%)	121	51.0 (42%)	42.1 (35%)
Alveolar N_2, per cent	<1.5	6.89	5.05	<1.5	11.3	13.6
Residual air, ml	1190	2736 (227%)	2296 (193%)	1785	5263 (295%)	3382 (190%)
Total lung capacity, ml	4760	5276 (113%)	5616 (118%)	5960	8162 (137%)	7024 (118%)
Residual per cent of total lung capacity	25.0	51.9	40.9	30.0	64.5	48.1
Ventilation factor, per cent	100	41.0	49.0	100	39.0	39.0
Duration smoking stopped	....	....	2 years	....	....	3 months

*Study after smoking stopped.

Barach,[3] in a study of vital capacity and maximal breathing capacity in 122 subjects—91 with bronchial asthma and pulmonary emphysema and 21 normal persons—found no evidence of increased bronchospasm or impaired ventilatory function capacity in 108 of the subjects. There was a reduction of vital capacity and maximal breathing capacity in ten cases although unaccompanied by clinically perceptible increase in severity of asthma. An increase in vital capacity and maximal breathing capacity after smoking three cigarettes occurred in nine patients in whom coughing provoked by smoking resulted in expectoration of mucoid or mucopurulent sputum. A number of investigators have noted a decrease in vital capacity associated with long continued use of cigarettes.[4,16,18] Turley[17] noted no effect on vital capacity. Some of the observers who noted a decrease in vital capacity were of the opinion it may be associated with bronchospasm as a result of smoking, but the individual responses were quite varied. In some instances even an increase was noted. The decrease noted in pulmonary ventilation in some patients after smoking has been explained on a basis of the expectoration of mucopurulent secretions.[3] In some patients carbon monoxide may be a factor in stimulating pulmonary ventilation with smoking. However, Asmussen and Chiodi[1] carried out a study in which it was noted that the pulmonary ventilation was not stimulated by carbon monoxide poisoning as it was in hypoxemia due to breathing a low oxygen mixture.

The problem of allergic sensitivity to tobacco smoke has to be considered in studies like the present one. Some investigators regard allergic reaction to cigarettes as rather infrequent, although there can be little question that smoking or exposure to smoke from tobacco can aggravate asthma in some persons. The number of reported cases with detailed evidence of sensitivity to tobacco as a cause of respiratory manifestations is surprisingly small in view of the widely quoted statement that in one per cent of patients with asthma, tobacco is a factor.[19]

In a review of the literature very little information was found on changes in the blood associated with smoking, and not much more on gas exchange; what there was of the latter was principally on resting oxygen uptake. In the present study, when cigarette smoke was inhaled with the smoking device, there was a significant lowering in the resting arterial blood oxygen saturation in the majority of patients who had severe or very severe pulmonary emphysema. Direct tension measurements of arterial pO_2, using the bubble technique of Riley, also demonstrated a significant decrease in this group of subjects. However, the average pCO_2 was increased slightly but not to a statistically significant degree. There was no significant change in the ventilation volumes at rest when tests using the smoking device were carried out. Tests that were done in 50 cases before and immediately after smoking, with step-up exercise, showed no consistent significant changes in the blood gas exchange. Studies of 21 subjects before and after smoking, with treadmill exercise, did show a significant decrease in the exercise oxygen uptake after smoking. However, there was also a significant decrease in the minute ventilation, and this may have been the cause of the reduced oxygen uptake on exercise. One has to consider, however, that the reduced exercise oxygen uptake may possibly reflect some change in pulmonary vascular resistance, which could result from an increase in pulmonary blood volume or from bronchospasm.

When a very sensitive test such as pulmonary compliance was employed, significant changes in the pressure volume relationship were obtained in subjects who were essentially normal and also in those with various degrees of pulmonary insufficiency. When the elastic work of breathing was calculated, it was noted that smoking increased the work of breathing in most subjects. There was no significant correlation of the change noted in compliance with smoking and the severity of the pulmonary emphysema or fibrosis.

In practically every case of severe emphysema which has been studied in this laboratory, when there was no other apparent cause for emphysema, there was a history of heavy cigarette smoking for many years. Significant changes in the arterial blood oxygen saturation were found only in the subjects with severe or very severe pulmonary emphysema when they inhaled the smoke with the smoking device, which delivered smoke in greater concentrations than was obtained by ordinary cigarette smoking. The experiment with the smoking apparatus was designed to try to intensify the effects of smoking as far as possible to see if blood gas exchange could be affected.

The data of this study in general indicated that patients with severe emphysema would be better off if they stopped smoking. No apparent difference was noted regarding the brand of cigarette smoked, or the presence of the filter tip. In normal persons the pulmonary compliance changes in some subjects were the only constant abnormality noted; this may be an undesirable change and may be a factor producing changes later on in some but not in all subjects, with respect to the development of a significant degree of emphysema.

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Social Security Footnotes

THE "SOUNDNESS" of Social Security depends on compulsion, high employment, and no wars.

—From the Department of Public Relations, American Medical Association

Emergency Operations in the Newborn

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• With the present-day development and understanding of anesthetic methods, fluid and electrolyte therapy, antibiotic medications and pediatric care, many congenital anomalies once uniformly fatal are now being successfully treated by emergency operations in the neonatal period. The eight most common of these which demand emergency operation in the immediate postnatal period are esophageal atresia and tracheoesophageal fistula, diaphragmatic hernia with dislocation of the abdominal viscera into the chest, malrotation of the intestine with obstruction, intestinal atresia, meconium ileus, imperforate anus, omphalocele and myelomeningocele.

Although infants born with any of these serious problems often are born prematurely and often have more than one congenital anomaly, survival rates in the surgical treatment of these conditions are steadily improving. Early diagnosis and prompt treatment are the most important factors in the continued improvement of these survival rates. •

Five of the seven commonest congenital anomalies which demand emergency operations in the newborn are varieties of obstruction to the gastrointestinal tract. The other two are varieties of herniation. When successfully treated, most of the infants with these anomalies can be given an entirely normal life.

These seven relatively common congenital anomalies are: Esophageal atresia, diaphragmatic hernia, malrotation of the intestine, intestinal atresia, meconium ileus, imperforate anus and omphalocele. There are other less common conditions which demand immediate operation in the newborn such as intestinal obstruction due to an annular pancreas, but this discussion will concern only the more frequently encountered entities.

A significantly high proportion of infants born with one of these congenital anomalies will be born prematurely and also a considerable number will have more than one congenital malformation. The mortality rate in these cases bears a direct relation to the degree of immaturity and to the presence of other congenital anomalies.

Infants seem to tolerate operation in the immediate newborn period better than a few days later. One of the reasons for this is that with the passage of time the effects of the congenital anomaly become manifest. Aspiration, atelectasis and pneumonia occur, and distention, vomiting, dehydration and electrolyte depletion become established. These factors not only complicate the surgical procedure but endanger the postoperative course of the infant. In all of the anomalies mentioned, there is a direct increase in the mortality rate with increasing age of the infant. However, once the complications of the anomaly have become established, time must be invested preoperatively in attempting to overcome as many of the existing physiological derangements as possible.

The anesthesia used in these tiny patients is fully as important as the operation. A highly trained and experienced anesthesiologist is needed. Thought should be given to the selection of an agent which allows good oxygenation, does not stimulate the secretion of mucus in the respiratory tract and is rapidly eliminated. In most cases the necessary procedures can be accomplished with a relatively light anesthesia, since relaxation in an infant is seldom a problem. Cyclopropane is the agent most often nearly ideal in these cases. Endotrachael intubation is frequently necessary and special care must be used in this regard since injury to the tiny larynx may lead to a fatal laryngeal edema after operation. Special pediatric anesthesia equipment is often necessary.

The administration of fluids and blood to the newborn infant requires fine judgment. Certainly, blood lost during a surgical procedure must be accurately measured and replaced. To accomplish this an intravenous polyethylene cut-down catheter is inserted at the beginning of operation. Newborn infants are generally well hydrated. They will tolerate a surprising amount of dehydration without trouble. If there are no abnormal fluid losses they can easily go 48 hours or more without additional fluid. However, their tolerance to excessive fluid administration, particularly in the form of saline solution, is very limited indeed. The cardiovascular and renal systems are not mature at birth and thus do not allow the wide latitude permissible in the fluid therapy of adult patients. Pulmonary edema is a constant danger in the immature lungs of an infant who has received only a slight excess of saline solution. By keeping these tiny patients on the "dry side" more of them will be brought successfully through

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the surgical procedures necessary to correct their congenital anomalies.

The surface area of an infant is relatively greater in proportion to his weight than an adult's, and heat loss during the operative procedure may become a serious problem. Efforts should be made to conserve the baby's heat and maintain his normal temperature during and after operation.

Frequently respiratory complications prove to be the limiting factor in the treatment of newborns. Every effort should be made to avoid aspiration, atelectasis and respiratory infections in these infants, who often have imperfectly expanded lungs to begin with, and frequently have underdeveloped protective cough reflexes. The tiny bronchial tubes of a newborn easily become blocked with plugs of dried mucus. A humidified atmosphere rich in oxygen is a great help in preventing this complication. Antibiotics are necessary to combat these respiratory complications.

Vitamin K must often be given to counteract the hemorrhagic tendencies found in the newborn. Nasogastric suction through a multi-holed fine catheter is necessary to help alleviate the distention of intestinal obstruction and to permit the bowel to rest postoperatively until normal function resumes.

Space does not permit the giving of credit to all the surgical pioneers who developed the successful methods of handling the surgical correction of congenital anomalies in the newborn. However, no discussion of this subject is complete without mentioning the contributions of Ladd and Gross and the group at the Boston Childrens' Hospital in compiling a monograph which serves as a guide for less experienced surgeons facing these relatively infrequent cases in the community.

Each of the more common congenital anomalies requiring emergency operation in the newborn will now be considered separately.

Esophageal Atresia

Esophageal atresia with a tracheoesophageal fistula occurs not infrequently. Over 90 per cent of these malformations have a blind proximal esophageal pouch and a communication between the distal esophagus and the trachea at the posterior aspect of its bifurcation.

With prompt diagnosis and treatment, a large percentage of infants with this condition can be saved. The early symptoms are excessive salivation, coughing and gagging during attempted feeding, quantitative regurgitation of food, and increasing respiratory distress, with bouts of cyanosis as the infant aspirates food or salivary secretions. The diagnosis may be confirmed by attempting to pass a small soft rubber catheter gently down the esophagus and meeting an obstruction, or by x-ray studies with a small amount of iodized oil introduced into the esophagus to demonstrate the blind proximal pouch. Air seen in the stomach and intestinal tract indicates the presence of a communication between the trachea and the distal esophageal remnant. These films will also demonstrate the degree of atelectasis and aspiration pneumonia usually present in these infants unless the diagnosis has been made in the very early hours of life. Barium should not be used in making these studies, since it is irritating when aspirated and will further severely complicate the already precarious pulmonary situation.

Approximately one-third of the infants born with esophageal atresia will have other congenital anomalies which often are an additional serious threat to their lives. Nearly one-fifth of these babies will be premature.

Once the diagnosis has been made, constant esophageal suction should be instituted to prevent the further aspiration of salivary secretions. The infant should be placed in a warm, moist, oxygen-rich atmosphere. Chemotherapy should be started to combat the respiratory complications, and parenteral fluids should be given as deemed necessary. Preparations for the definitive surgical repair of this anomaly should be begun at once.

In most infants with this problem, a single stage closure of the tracheoesophageal fistula and an end-to-end anastomosis of the divided esophageal segments can be done. The right side of the chest is opened through the fourth intercostal space, the mediastinal pleura is incised and the azygos vein is ligated and divided, exposing the retrotracheal region. The distal esophagus is freed and followed up to its connection with the posterior surface of the carina, where it is divided and sutured. The distal esophagus may be gently dilated so that it approximates the size of the proximal pouch. Considerable freeing of the distal segment may be necessary in order to achieve an anastomosis without tension. The proximal pouch is identified at the apex of the chest and gently freed from its attachment to the posterior wall of the trachea. An opening is made in this pouch and an anastomosis between the two freed ends of the esophagus is made, using two layers of fine interrupted silk sutures. Once the anastomosis is completed, the mediastinal pleura is closed loosely, then the chest wound is closed in layers, and a catheter is left in place for postoperative suction. Frequently it will be found wise to perform gastrostomy immediately following the primary esophageal anastomosis so that feeding of the infant may be begun before the esophageal anastomosis has safely healed.

After operation constant nursing care is necessary, with particular attention to frequent oropharyngeal suction to prevent further aspiration and pneumonia. In the cases in which the distance between the proximal and distal portions of the esophagus is too great to perform a primary anastomosis without tension, the right leaf of the diaphragm may be opened and the stomach freed so as to bring it up into the chest and thus gain additional length for an anastomosis. In some situations, even this may not suffice and it is necessary to close the tracheoesophageal fistula if one exists, create a cervical esophagostomy with the proximal segment so that the oropharyngeal secretions will not be aspirated but will leak out onto the neck of the patient, and then establish a feeding gastrostomy. When these measures have been carried out, the baby is encouraged to grow and at some later date a multiple-stage esophageal reconstruction is done.

The mortality rate bears a direct relation to the degree of prematurity, the presence of other serious congenital abnormalities and the condition of the infant before operation. This latter is directly related to the length of time between birth and the recognition of the congenital abnormality. Most of these infants who die do so of the pulmonary complications secondary to the aspiration of food and salivary secretions; but with prompt diagnosis and treatment more than half of them should survive.

Diaphragmatic Hernia

Diaphragmatic hernia in the newborn occurs most frequently in the left posterolateral region of the diaphragm. It is the result of failure of fusion of the pleuroperitoneal sinus or foramen of Bochdalek. Most infants with this abnormality will die promptly unless treated, because of the compression of their lungs by the abdominal viscera in the chest. The lives of most infants with this congenital abnormality can be saved by prompt surgical intervention. Although congenital hernia of the diaphragm may appear in other locations—the retrosternal area, esophageal hiatus, or the right posterolateral foramen—by far the vast majority of them occur in the left posterolateral region. Most of these defects do not have a hernial sac. The pleural cavity on the defective side is filled with abdominal viscera and the lung on that side is completely collapsed, the mediastinum shifted and the vital capacity of the infant seriously impaired.

The symptoms associated with these diaphragmatic hernias are cyanosis, dyspnea and vomiting. Some infants are able to tolerate such hernias with a remarkable lack of symptoms. Breath sounds will be absent on the affected side and will be replaced by peristaltic sounds. After birth, the infant swallows air, inflating the intestinal loops located in the chest. This further compresses the lung, shifts the mediastinum and aggravates the already seriously diminished vital capacity. The symptoms may be delayed in onset and progressive in severity. Prompt diagnosis and treatment are necessary for successful outcome. The inflated loops of bowel not only further reduce the vital capacity but complicate the problem of replacement of the bowel into the abdominal cavity which may be already too small to accommodate the structures which normally should be there. X-ray examination will disclose the presence of gas-filled loops of bowel high in the chest, complete collapse of the lung on that side, shift of the mediastinum and partial compression of the lung on the opposite side.

In most cases the abdominal approach for the repair of this hernia is preferable because a significant percentage of the infants will not have proper rotation of the intestine, and this difficulty can be remedied at the time the diaphragmatic hernia is repaired. Furthermore, if there is pronounced disparity between the size of the abdominal cavity after repair of the hernia and the number of loops of bowel which must be accommodated within this cavity, a repair similar to that used for a large omphalocele may be employed.

Through a long left paramedian incision the abdominal cavity is entered, the remaining viscera are gently retracted and the loops of bowel extending up into the chest through the hernial opening are gently drawn down into the abdominal cavity. It may be necessary to insert a catheter along the course of these bowel loops to release the "vacuum" in the pleural space and facilitate the withdrawal of the bowel and viscera. With the bowel removed from the pleural cavity the hernial opening may be closed, imbricating the edges of the diaphragm, if possible. It is necessary to secure expansion of the lung as this closure proceeds, and this requires the use of endotracheal anesthesia with judicious positive pressure by the anesthetist during this phase of the repair, and the placement of a chest catheter for postoperative suction. Without the use of an endotracheal tube the positive pressure efforts on the part of the anesthetist will suffice only to inflate the stomach and further complicate the reduction of the hernia. The viscera are then replaced carefully within the peritoneal cavity and the abdominal wound closed meticulously in layers. Even though the abdominal cavity may not have been fully developed, it is generally possible to enclose all the abdominal viscera with a normal repair. However, on occasion it may be necessary to close only the peritoneum and skin, leaving the definitive abdominal closure for a second stage. Attention must be paid postoperatively to the lung to see that it remains fully expanded.

With prompt recognition of this condition and prompt treatment, fully 90 per cent of these infants should be successfully treated. In choosing the anesthesia for this procedure, one must keep in mind the necessity of delivering a high concentration of oxygen owing to the respiratory embarrassment of the infants. Occasionally the diaphragm on one side may be almost completely absent or the defect may be so large that the edges cannot be brought together. In such cases the ingenuity of the surgeon is severely taxed in efforts to raise flaps of peritoneum and pleura to bridge over the defect.

Malrotation of the Intestines

Malrotation of the intestines and colon is a condition which occurs not infrequently in the development of the fetus. Normally during embryologic development, the midgut develops at a rate faster than the capacity of the abdominal cavity. Thus one finds portions of the alimentary tract protruding into the base of the umbilical cord. As the peritoneal cavity grows, the midgut retracts into the abdominal cavity and a form of rotation occurs which drapes the colon around three sides of the abdominal cavity and gives the intestinal mesentery a line of attachment extending roughly from the ligament of Treitz to the ileocecal region. Normally the ascending colon and the descending colon are adherent to the lateral abdominal walls. This rotation and fusion process may become arrested or fail of completion. With incomplete rotation, one frequently finds a mobile cecum situated just below the antrum of the stomach. Obstruction to the second or descending portion of the duodenum occurs from bands of peritoneum that extend from the malpositioned cecum across in front of the duodenum to the abdominal wall. The cecum itself may rest just anterior to this portion of the duodenum and compress it. When this developmental abnormality is present, the entire small bowel has only a rudimentary attachment to the posterior abdominal wall, and instead of there being a line of fixation for the small bowel mesentery, there is only a single point of fixation at the aortic origin of the superior mesenteric artery. The entire small bowel may easily twist about this single point of fixation.

In approximately one half of patients with malrotation of the intestines and colon, there is an associated volvulus of the midgut. This volvulus usually occurs in a clockwise direction, and may be several complete turns. Such a volvulus not only obstructs the lumen of the bowel but may infarct the entire midgut by occlusion of the superior mesenteric vessels. Thus two pathologic entities may arise from one congenital abnormality: (1) Compression and obstruction of the second portion of the duodenum due to bands from the malposition of the ileocecal region across the descending portion of the duodenum, and (2) volvulus of the midgut with infarction and obstruction.

Although in the majority of infants with this congenital abnormality, signs and symptoms develop early in life, occasionally difficulties do not occur until a later age. The signs and symptoms are vomiting and abdominal distention usually confined to the upper abdomen because it is only the stomach and first portion of the duodenum that are dilated. Dehydration and electrolyte imbalance follow rapidly. This condition is sometimes difficult to differentiate from duodenal atresia. However, immediate surgical treatment is required for both. X-ray examination will disclose a greatly dilated stomach and there often is seen a single bubble of gas in the first portion of the duodenum. The remainder of the intestinal tract is usually empty, although a few scattered bubbles of gas may occasionally be seen. A barium enema is often useful and will reveal the incomplete rotation of the large bowel. Barium should not be given from above, since it rarely adds much to the diagnosis and will tend to obstruct the bowel postoperatively.

Treatment of this condition consists of careful rehydration and replacement to overcome electrolyte deficiency, aspiration and decompression of the proximal bowel and stomach, and early surgical intervention. Early operation should be stressed because of the danger of midgut infarction when volvulus is present. Sometimes when the abdomen is opened, the only viscera visible are multiple loops of dilated small bowel. The situation may be clarified if the surgeon will gently deliver the entire intestinal mass out onto the abdominal wall. Once this has been accomplished, the twisted midgut mesentery may be seen and the intestinal mass properly unrotated. With the release of the constriction of the superior mesenteric vessels, normal color should soon reappear in the intestinal loops unless irreversible changes have already occurred. The bands between the right parietal peritoneum and the cecum which are obstructing the second portion of the duodenum must be released, allowing the entire colon to move into the left side of the abdomen. Once it has been determined that the midgut is viable, the abdomen is closed.

After operation, gastric suction is maintained constantly until the patient has recovered from the ileus that accompanies this condition and the operative treatment. About 80 per cent of the patients treated for malrotation of the colon and intestines with duodenal obstruction should survive, whereas only about half that number who also have volvulus of the midgut will survive. Surely the sooner the diagnosis can be made, and the sooner proper surgical treatment can be carried out, the greater will be the survival rates in both groups.

Intestinal Atresia

Intestinal atresia is not common. It may be difficult to diagnose, and delay is usually associated with severe deterioration of the baby's condition. The atritic segment of bowel may be short or long and may occur anywhere, but most frequently is found in the duodenum or in the ileum. The symptoms are vomiting with progression in frequency and intensity. No cornified epithelial cells can be found upon microscopic examination of the stool (Farber's test). Extensive abdominal distension may or may not appear, depending upon where the atresia is located; however, usually the upper abdomen in the region of the stomach will become bloated intermittently. The signs and symptoms of dehydration and toxicity become progressively superimposed upon the symptoms of intestinal obstruction. Abdominal x-ray films show a greatly dilated intestinal tract proximal to the obstruction, with no bowel gas beyond it. No contrast medium should be used. Barium will effectively block any anastomosis subsequently achieved. Every effort should be made to decompress the stomach with a small urethral catheter before operation. Often the infants will need a period of fluid and electrolyte replacement before they are operated upon.

The problem at operation is to achieve a satisfactory anastomosis between the dilated segment of bowel proximal to the atresia and the tiny underdeveloped bowel distal to the block. When the atresia is in the duodenum or jejunum, every effort should be made to secure a side-to-side anastomosis, bypassing the blocked segment. When the atresia is in the terminal ileum or colon, a Mikulicz exteriorization procedure can be carried out, bringing out—sewn together—the dilated proximal loop and the collapsed distal loop. The spur between these is subsequently crushed and eventually the enterostomy stoma is closed. The problems presented by this method of treatment are those of continued severe depletion of fluid and electrolytes by loss through the ileostomy stoma. A primary anastomosis is the treatment of choice whenever possible.

After operation, considerable patience and care are necessary before the undilated distal bowel begins to accept thin fluid feedings through the anastomosis from above.

This congenital anomaly is difficult to treat successfully, but a survival rate of better than 50 per cent has been achieved.

Meconium Ileus

Meconium ileus causing intestinal obstruction in the newborn is also an extremely difficult condition to treat successfully. This is because the meconium ileus is only a symptom of a widespread generalized disease, characterized by failure of the mucus-secreting glands of the respiratory and gastrointestinal systems to function properly as well as failure of the pancreas to form its digestive enzymes.

In infants with this disease the symptoms may be those of intestinal obstruction which may be difficult to distinguish from any other form of neonatal intestinal obstruction. Frequently the babies have become distended and severely depleted by the time operation is undertaken. At exploration, distended loops of bowel are found proximal to the obstructed segment, which contains a very thick tenacious inspissated plug of meconium. The obstruction may extend for some length and there may be more than one. That there are different surgical maneuvers recommended for the treatment of meconium ileus indicates that no single method is entirely satisfactory. A resection and anastomosis of the obstructed segment of bowel seems to offer the best chance to the infant if the obstruction is high in the small bowel. If the obstruction is in the terminal portion of the ileum, where it often is, this segment can be exteriorized and resected, forming a double ileostomy by use of the Mikulicz technique. A crushing clamp is applied later to the spur between the two loops of bowel, permitting the intestinal contents to pass on into the distal bowel. The ileostomy stoma is later closed. The disadvantages of this technique are those of the tremendous problems presented by uncontrolled fluid and electrolyte losses from the ileostomy. The more proximal the ileostomy, the more severe these problems. The advantages are that it is quick, aseptic and may be the only procedure that an already severely ill child could possibly survive.

Many of the patients die sooner or later of the pulmonary complications of generalized mucoviscidosis, despite the alleviation of intestinal obstruction.

Imperforate Anus

Imperforate anus is probably the most frequent congenital anomaly requiring emergency operation in the newborn. It occurs in several forms, varying from mild anal stenosis to a blind rectal pouch ending high in the pelvis. The majority of cases are of the latter type. Three fourths of the infants will have a fistula connecting the blind rectal pouch to the bladder, urethra or perineum in the males, or to the vagina or perineum in the females.

In most cases the symptoms of intestinal obstruction develop shortly after birth—first obstipation, abdominal distention and vomiting and then dehydration and manifestations of the toxic effects of intestinal obstruction soon afterward. If there is an associated fistula of sufficient size, the infants may pass meconium and gas through the urinary tract or from the vagina. Occasionally a perineal fistula is large enough size to permit bowel function so nearly normal that the rectal abnormality is not discovered until the patient is in an older age group.

X-ray studies are helpful in determining the level of the atresia. If the child is held inverted, a plain abdominal film will show gas rising to the distal end of the colon; and by placing a lead marker on the perineal skin, the distance between the blind pouch and the surface can be determined. For these studies to be significant the child must have passed enough gas through the length of the intestinal tract to outline the blind end of the colon.

The treatment chosen for this condition depends upon the anatomical type of the anomaly. In cases of anal stenosis, repeated and gradually increasing dilatation usually solves the problem. If there is only a thin membrane obstructing the anus, a simple perineal excision of this membrane followed by serial dilatations is usually all that is necessary. In the most common type, in which the rectum ends in a blind pouch high in the pelvis (an inch or more from the anal skin), two types of treatment must be considered. First, a simple sigmoid colostomy may be performed and the definitive reconstruction of the anal canal deferred. This is the procedure of choice when the infant is premature, or when its condition is precarious due to the intestinal obstruction, distention and dehydration. Care must be taken in doing the colostomy to leave ample distal bowel for the subsequent pull-through procedure.

Second, in ideal cases—those in which the diagnosis has been made early and the infant was delivered at full term and in good condition—a combined single stage abdominal-perineal reconstruction of the rectal canal can be carried out. Through an abdominal approach the rectal pouch is freed, any existing fistulas are identified and closed, and dissection is carried down through the pelvis as far as is practicable from above. A catheter in the urethra in the male or a finger in the vagina in the female will aid in this dissection. Then the perineal approach is begun by incising vertically in the midline, dividing the sphincter, which can be identified by stimulation, and carrying the dissection up into the pelvis between the levator ani muscles. Once the pelvic cavity is entered, the rectal pouch is drawn down through the passage, the perineal structures are reconstituted and the bowel is anchored to the subcutaneous tissues with interrupted sutures. It is then opened and the mucosa sutured to the edges of the skin, care being taken to bring the bowel through the center of the anal muscular ring, which is reformed. When a fistula involves the urinary tract in males, a suprapubic cystostomy catheter is left in place.

Although a blind rectal pouch which approaches closely to the perineal skin can frequently be mobilized from below sufficiently to complete the operation by the perineal route alone, it is inadvisable to attempt this approach initially if the distance between the perineal skin and the pouch is over three-quarters of an inch. It is also advisable to err on the side of conservatism in performing a preliminary colostomy, since, all other considerations being equal, the mortality rate with the extensive one-stage pull-through operation in newborn infants tends to be higher than with the two-stage repair.

With proper selection of the procedure and prompt treatment, 90 per cent of the infants should survive.

Omphalocele

Omphalocele is a herniation of the abdominal viscera into a sac at the base of the umbilical cord covered only by a fused layer of peritoneum and amniotic membrane. This condition is not common. It is thought to arise from a disparity in the relative rates of development of the size of the abdominal cavity and the volume of the developing intestinal and abdominal viscera. Normally before birth the abdominal cavity has assumed a size that will accommodate all the viscera, and the anterior abdominal wall closes, leaving only a narrow channel in the umbilical cord. The diagnosis of this condition is at once evident upon the birth of the baby. The omphalocele may be very large and may contain nearly all the abdominal viscera, including the liver. The stump of the umbilical cord will be attached to the apex of the sac. This condition is one of surgical emergency in the newborn, since the membranes rapidly become dried and brittle and rupture, evisceration and peritonitis ensuing. Also, there is a very low bacterial resistance in these membranes. Other associated congenital abnormalities occur in these infants with a frequency considerably more than statistically expected. Another factor dictating promptness in repair of this abnormality is the fact that as time passes the intestinal tract becomes inflated, which further complicates the reduction of the abdominal contents into the already too small abdominal cavity. Before the era of antibiotics and chemotherapy, rupture of this sac was uniformly fatal.

The repair of omphaloceles may be performed by a single or two-stage procedure, depending upon the size of the sac and defect. When the viscera can be easily replaced within the abdomen without undue pressure and the abdominal wall closed meticulously in layers without tension, this is the procedure of choice. However, when the intestines are inflated or the abdominal cavity is unduly underdeveloped, compressing the viscera back into this cavity may force the diaphragms up and give rise to serious embarrassment of the vital capacity. The vena cava may be compressed, diminishing the return of blood to the heart, and the intestines themselves may be so squeezed as to seriously delay or embarrass the gastrointestinal functions of the infant. In these cases it is far wiser to use the two-stage repair.

Basically, the technique of the two-stage repair of an omphalocele consists of leaving the fused peritoneal and amniotic sac intact, undermining skin flaps widely on either side and bringing them together over the sac, which has been previously thoroughly cleaned. Such a repair leaves the infant with a large, skin-covered ventral hernia; however, at a second stage, once the abdominal cavity has grown large enough to accommodate all the viscera without embarrassing the child's respiration, the ventral hernia may be converted into a normal abdominal contour. Approximately two-thirds of the infants with this defect should survive. There is a direct relationship between the size of the omphalocele and the mortality rate.

A myelomeningocele is a similar problem which may require emergency operation in the newborn, but a discussion of this anomaly rightly belongs in the field of neurosurgery.

University of California at Los Angeles School of Medicine, Los Angeles 24.

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Black Lesions of the Skin

S. WILLIAM BECKER, *M.D.*, Long Beach

• **Benign melanocytic lesions include lentigo, ephelid (freckle), pigmented nevus, sacral spot, blue nevus, and combined nevus and blue nevus.**

Malignant melanocytic lesions are melanomas, which arise from melanocytes at the epidermodermal junction, or, rarely, from blue nevi. They usually originate in brown plaques known as lentigo maligna, in pigmented nevi, or in normal skin.

Melanoma is diagnosed clinically in less than 50 per cent of instances. Biopsy is therefore of great importance, since practically all melanoma can be cured by adequate early resection.

In CONTRAST to the sometimes gaudily pigmented lower animals, man appears rather drab. The six pigment systems recognized by Weidenreich[28] in the lower forms—pericoelomic, perivascular, perineural, ocular, dermal, and epidermal—have been reduced in man to:

Perineural—a rather primitive occurrence of melanocytes in the pia mater about the medulla;

Ocular—prominent;

Epidermal—prominent in the dark races, less conspicuous in Caucasians;

Dermal—sacral spots and blue nevi.

The pericoelomic and perivascular systems are recognized in man only as the probable source of melanomas that occasionally originate (or seem to) in the inner organs, and which can be understood only as atavistic phenomena.

Other sources of skin color—hemosiderin, carbon and certain metals—are rare and will not be discussed in this presentation.

The pigment-forming cells, formerly called melanoblasts ("pigment-formers"—Bloch and others), are designated melanocytes, according to the classification of Harvey, Dawson and Innes,[12] adopted by interested participants at the Second Pigment Cell Conference.[24] Primitive (stem) cells are called "melanoblasts," the differentiated cells which form melanin "melanocytes," and the dermal phagocytic melanin-containing cells "melanophages." The dendritic cells in amphibians in which the melanin granules gather and scatter, depending on circumstances, are called "melanophores," a term preferred by most zoologists.

Zimmerman and Becker,[30] by study of human embryos and fetuses (chiefly Negro), observed that pigment-forming cells appear in the dermis first as a single layer of argyrophil cells. This single layer later becomes double and the cells of the more superficial layer migrate to the epidermodermal junction, where they become permanently located between or just proximal to the basal cells. The cells of the deeper layer remain in the deeper dermis.

The cells of the superficial layer become dioxyphenylalanine-positive as they are attached to the epidermis. They become tyrosine-positive after exposure to the skin of a ferment activator, such as ultraviolet irradiation, alpha, beta or gamma rays. In sections of unirradiated fixed and stained skin, the cells may be seen clinging to the proximal margins of the palisade basal cells or scattered regularly between these cells. Unlike the epithelial cells, they have no intercellular bridges, probably because of shrinkage of their somewhat basophilic cytoplasm, they appear as though situated in clear spaces; hence were called "clear cells" by Masson.[16] Under the influence of activating irradiation, the cells enlarge and alter their shape in the form of dendrites, which extend outward between the basal cells. Melanin granules appear on mitochondria[29] within the cell body and in the branches, which end in cup-shaped termini that appear to cover as an umbrella the distal pole of the nucleus of the basal cells (nuclear caps).[2] The melanocytes function in pigmentation of the skin under the influence of the sunburn spectrum of ultraviolet irradiation and of alpha, beta and gamma rays. They also become hyperpigmented in lentigo and ephelid (freckle).

Melanocytes also have the faculty of multiplying. If the neoplasia is benign, a pigmented or nonpigmented melanocytic nevus (pigmented nevus) results; if malignant, malignant melanoma is produced, pigmented or nonpigmented.

Loss of pigment-forming function of the melanocytes results in various types of leukoderma, including vitiligo.

The deeper layer of pigment-forming cells is the origin of sacral spots, blue nevi (including the progressive blue nevus) and, rarely, of malignant melanoma. Most of the cells of this layer begin to

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disappear at or before birth, and continue to do so for several years.

In amphibians, fowl and mice, melanoblasts and melanocytes have been traced back to the neural crest. This origin has not been demonstrated in human beings, for obvious reasons, but the resemblance of pigment-forming cells in human beings to nerve cells is manifest in many observations: The presence of argyrophil cells in fetuses; staining by nerve stains—silver, methylene blue, gold—after birth; occurrence of dendritic pigmented cells simulating nerve cells in fetuses and after birth,[7] persistence of the same type of cell in tissue culture, with no resemblance or reversion to epithelial cells; resistance to roentgen or radium therapy of pigmented nevi and melanomas. This array of evidence gives great support to the theory of neural origin accepted by most workers today.

The most elementary benign lesion is lentigo, macular, and without nevus-cells, appearing on any part of the body, usually less than a centimeter in diameter, although it may be larger. It occurs with greater frequency relatively late in life, as discussed under "senile lentigo" by Cawley and Curtis.[8] However, brown macules seen shortly after birth or appearing in childhood are called "lentigo," and, when present in large numbers in a unilateral or bilateral distribution, are designated "lentigo profusa." Microscopically, lentigo shows only hyperpigmentation of the basal melanocytes and epidermis (Figure 1), without melanocytic proliferation. It is differentiated from nevus by the presence of large numbers of melanocytes in the latter.

Freckles (ephelides) are more common and lighter in color than lentigines. They appear in childhood after exposure to ultraviolet irradiation, and may or may not fade out in the winter. They are seen almost exclusively in light-complexioned or auburn-haired persons. The areas between the freckles may or may not pigment after exposure to ultraviolet irradiation. Biopsy reveals hyperpigmentation of the basal layer and epidermis, with slight or no pigment between the lesions. The melanin seems to be lighter in color than that in lentigo.

Among the most common pigmented lesions are pigmented nevi, formed by benign neoplasia of melanocytes at the epidermodermal junction. They usually appear during the first year or so of life as dark brown macules varying from a few millimeters to several centimeters in diameter. The dark brown color results from hyperpigmented nests (theques) of nevus cells at the epidermodermal junction (Figure 2), with accompanying melanosis of the epidermis. As the child grows, most nevi become elevated and less pigmented, because the theques change to lightly pigmented or nonpigmented nevus cells which penetrate into the dermis (Figure 3).

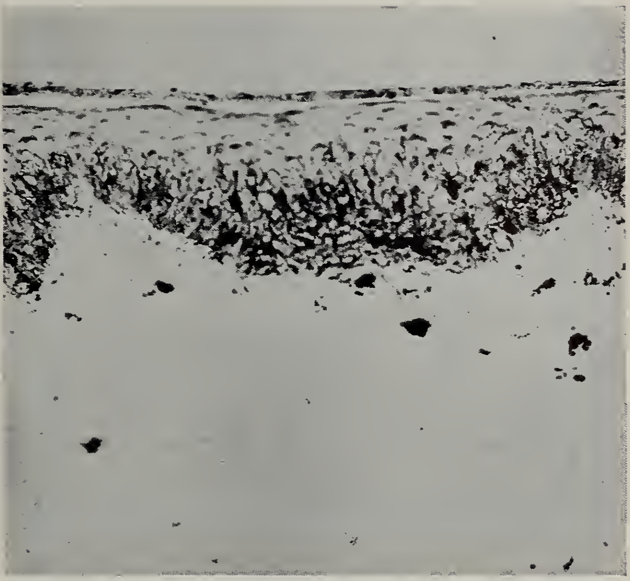

Figure 1.—Specimen of lentigo on cheek of 72-year-old woman. Melanocytic activity has produced simple hyperpigmentation. (Silver nitrate reaction.) (×200)

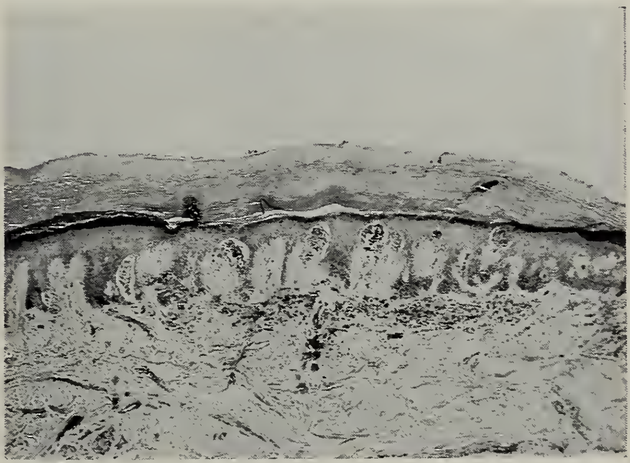

Figure 2.—Persistent theques in smooth nevus on sole of 32-year-old woman. The nevus cell nests are continuous with the epidermal cells. (Hematoxylin and eosin stain.) (×30)

The elevated, nonpigmented nevi are most frequent on the scalp, face and trunk, rare on the hands and feet. During childhood, some nevi darken and become blackish. Pronounced hyperpigmentation may be seen in biopsy specimens, which identifies the lesion as an "active" nevus, a term signifying hyperpigmentation, but not a tendency to malignancy. Biopsy should be done in the case of any nevus that is becoming appreciably darker, since inception of melanoma also causes darkening. In 80 to 90 per cent of cases, the status of a nevus is properly diagnosed by dermatologists.[3] There are many histologic variables in nevi. In infants, as studied by Stegmeier and Montgomery,[26] melanocytes are seen to have multiplied as oval or fusiform, hyperpigmented cells, and to form groups (theques) that are

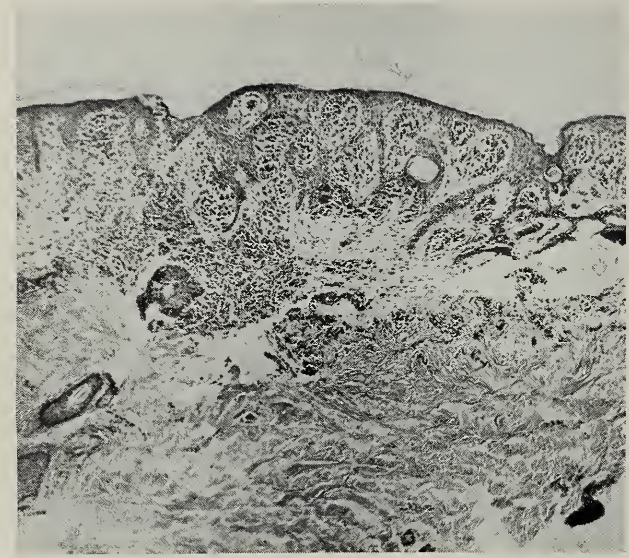

Figure 3.—Theques and dermal nests of nevus cells in 4-year-old child. (Hematoxylin and eosin stain.) (×35)

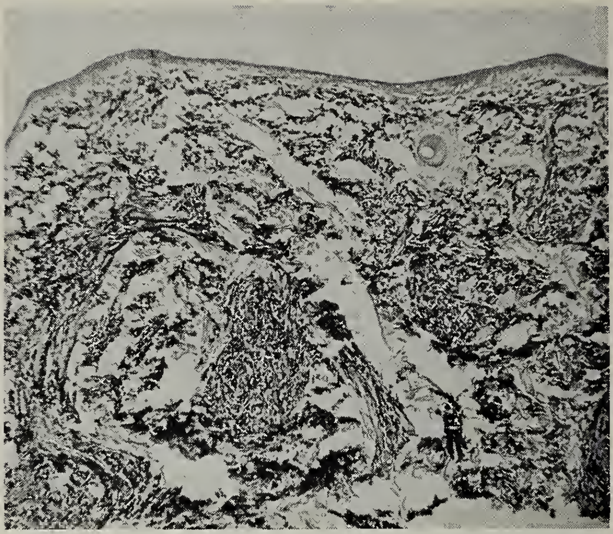

Figure 4.—Blue nevus. The fusiform melanocytes are separated from the epidermis by a thin layer of connective tissue. (Hematoxylin and eosin stain.) (×80)

at first intimately attached to the epidermis. Later, groups and strands of rounded and oval, smooth-surfaced cells penetrate to varying depths of the dermis. As they become more deeply located, the cells elongate, assume features of a variety of neurofibroma, and, in some cases, become lamellated to form "lames foliacees," which resemble Wagner-Meissner corpuscles. The only nevus cells that are pigmented are those nearest the epidermis, unless the tumor is a combined nevus and blue nevus, in which case some of the deeper cells are also melanotic.

Several attempts have been made to classify nevi on the basis of the microscopic appearance. The first was that of Traub and Keil,[27] as follows:

1. Junction-type nevus, with groups of nevus cells attached to the epidermis. Traub and Keil's illustrations (Figures 15 and 17 of their communication) strongly suggest lentigo maligna, which is in accord with their statement: "The growths that we have designated as junction type nevi represent what we consider potentially malignant melanomas."

2. Intradermal nevus, in which nevus cells are confined to the dermis.

3. Combination-type nevus, in which there is association of junction type with intradermal nevus.

The second classification was that of Miescher and Albertini.[17] The author modified the latter slightly as follows:[3]

(A) Lesions in which nevus cells are still definitely attached to, or actually integrated into the epidermis.

(B) Lesions in which no nevus cells are definitely attached to the epidermis, but are present in the dermis.

(C) Nerve nevus type of Masson, some portions of which resemble neurofibroma.

Of 741 nevi observed by me, there were 16 of the epidermal type (A); 65 with epidermal attachment in some areas, only dermal in others; 122 dermal only; 477 combining dermal and neural areas; 49 with features of all three types, and 12 that were purely neural.

Lund and Stobbe[14] made additional subdivisions into five groups instead of three. None of the above classifications includes blue nevi or combination of nevus and blue nevus. This combination is of importance because it has been mistaken for melanoma.

Blue nevus, an acquired bluish macule or maculopapule, usually a few millimeters in diameter, rarely larger, and sometimes gradually increasing in size (progressive blue nevus), is blue in color because the brown, melanin-containing fusiform cells are located so deep in the dermis that the scattering effect of the overlying tissue produces a blue hue. A blue nevus of special distribution is known as fuscoceruleus ophthalmomaxillaris, or nevus of Ota, since it was studied by him and later by Ito.[13] The dermal melanocytes producing the blue nevus originate from the deeper of the two pigment-cell layers. If they are more superficial and hug the epithelium (Figures 4 and 5) the color may be brownish or blackish. If inflammation has developed, the color may be very dark, because of melanin in melanophages.

Bluish "sacral spots" are also known as "mongolian spots" because they are seen in the sacral and adjacent regions (at times more caudad on the dorsal surface, rarely on the ventral surface of the body) of practically all newborn babies of the mongolian races, and to a somewhat lesser degree in

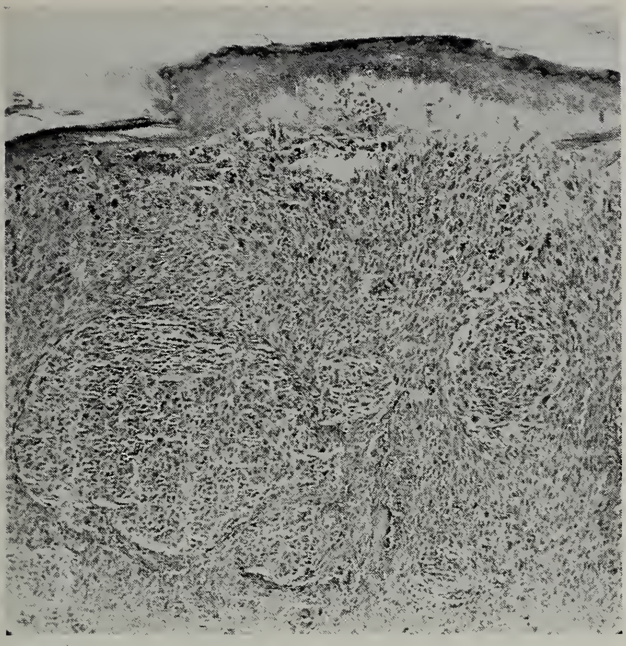

Figure 5.—Blue nevus, part of which is lightly pigmented. (Hematoxylin and eosin stain.) (×75)

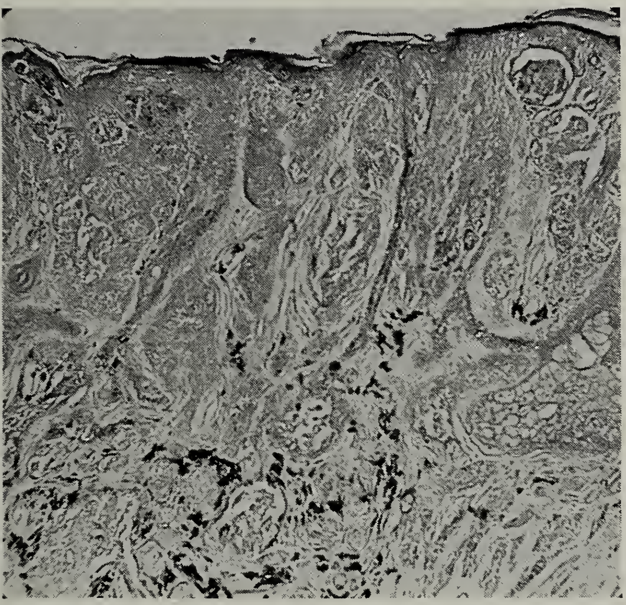

Figure 6.—Combined nevus and blue nevus in 18-year-old patient. (Silver nitrate, pyronin-ethyl green stain.) (×40)

other dark races. They are formed by the same fusiform melanocytes as are blue nevi, but differ in that their cells are less concentrated and in their tendency to disappear slowly during early childhood.

Combined nevus and blue nevus, infrequently found on biopsy of elevated pigmented nevi (a little less than 1 per cent in the author's series), may be blackish in all or part of the lesion. The superficial nevus cells are of the usual variety, arising from the superficial melanocytic layer, while the blue nevus cells, usually fusiform, arise from the deeper layer, hence are seen in the deeper portion of the nevus (Figure 6). This combination seems to account for the occasional finding of pigmented melanocytes in the deeper portion of nevi, among the nonpigmented dermal nevus cells.

Probably belonging to nevi, although not manifest at birth, "juvenile melanoma" (Spitz) has characteristics of both benign nevi and malignant melanoma. Pack,[21] who was first to describe such growths, stated that they are deeply pigmented, but Spitz[25] reported mildness of pigmentation, which conforms to the experience of the present author and of others. Microscopically these tumors resemble nevi for the most part, and probably never become malignant. The present author has observed that the characteristic cells are mildly dopa-positive, which seems to confirm a melanocytic origin, and therefore prefers to call the tumor "pseudomelanoma."

The most important brown or black neoplasm is a malignant melanocytic tumor for which at least 16 names have been suggested. Unna believed this growth was of epithelial origin, and so did Bloch, Darier, Allen[1] and other investigators. Unna termed it a "nevocarcinoma," implying that it arises in a benign nevus which has, in turn, originated from epithelial cells—hence the classification as carcinoma. However, since the melanocyte is now believed by most workers to be of nonepithelial origin, a malignant tumor arising from it should be called a sarcoma; therefore Kaposi was correct in 1895 when he applied the term "melanosarcoma." For this presentation, though, the most common designation, "melanoma," will be used. This was suggested by Carswell in 1838, some British[12] and Australian investigators prefix "benign" in the case of a pigmented nevus, distinguishing it from the malignant melanoma.

Melanoma arises in at least three ways: (1) In pigmented nevi, (2) from normal skin, and (3) as lentigo maligna. Opinions on the proportionate frequency of each source vary widely: Pack[22] thought that all melanomas come from nevi, and Allen[1] traced them "almost exclusively from junctional nevi or from junctional component of compound nevi," while others attributed smaller proportions to this source—as few as 18 per cent, according to Daland and Holmes.[9] At the University of Chicago's dermatological pathology laboratory, the author found evidence of neval origin in only 23 per cent of specimens. Melanoma sometimes arises in what appears to be normal skin, and could be called "melanome d'emblee." Pillsbury, Shelley and Kligman[23] emphasized, "It is not sufficiently appreciated that melanocarcinoma arises without any preceding lesion in some 25 per cent or more cases." This estimate seems to be somewhat high.

Most melanomas arise in the form of a brownish plaque, known as "lentigo maligna," which starts as an asymptomatic brown macule, usually but not always late in life, enlarges slowly over months or years, and shows varying shades of brown in the same lesion, with some areas blackish. Eventually, at some point in the plaque, a tumor arises—either erythematous, resembling granuloma pyogenicum, or blackish. Appearance of the tumor presages the presence of metastasis, as studied by deMorgan and reported by Handley.[11]

Use of the terms "junction type mole" or "junction nevus" has been discussed by the author,[4] who believes they should be abandoned. The chief reason is that these designations have been applied to two benign lesions, quiescent nevus and active nevus, and to one malignant lesion, lentigo maligna. The first two show only benign neoplasia; the last-named is distinguished from nevus by the malignant neoplasia of the melanocytes, which first work their way to the cutaneous surface. There is abundant lymphocytic infiltrate, which is never found in a nevus except in a case of injury or infection. Many observers have assumed that melanomatous tumor arises in the so-called "junction" nevus, evidently from the nevus cells. The author has never seen evidence for such an origin, and questions whether benignly neoplastic nevus cells ever become malignant. Melanoma arises in a nevus in about 25 per cent of cases, but in the specimens studied the origin seemed to be in the form of malignant neoplasia of melanocytes at the epidermodermal junction and not from preexisting nevus cells. The clinical signs of malignant melanocytic degeneration in a nevus are enlargement and darkening of the lesion. The tumor becomes more fragile, oozes, and later bleeds easily.

Confusion has resulted from including all pigmented precursors of melanoma, both pigmented nevi and lentigo maligna, under the designation "moles," which thus includes 75 per cent or more. That the epidermodermal junction of a pigmented nevus is a prominent origin for melanoma may be determined by contrasting the surface of the body, about 2,000 sq. cm., with the surface of the ten to twenty pigmented nevi on the average adult. Even if a minimum of 25 per cent of melanomas arise in nevi, this small surface assumes relatively great importance in the origin of melanoma.

The clinical appearance of melanoma varies from a coal-black tumor to an erythematous granuloma-like tumor, depending on the degree of pigmentation. The nonpigmented tumors become black when placed in a solution of tyrosine, as shown by Fitzpatrick.[10] Clinical diagnosis is made in less than 50 per cent of cases—in 48 per cent of one series diagnosed microscopically, in the author's experience,[5] and in 38 per cent of McMullan and Hubener's series.[18] It is therefore obvious that biopsy is of utmost importance. Regarding the safety of biopsy of melanoma, Osborne[20] stated, "I have never seen a case in which biopsy could be incriminated as the cause of metastasis." The author agrees with this concept and has always biopsied melanoma. Several investigators, including surgeons, recommend removal of the entire lesion, to which there can be no valid objection.

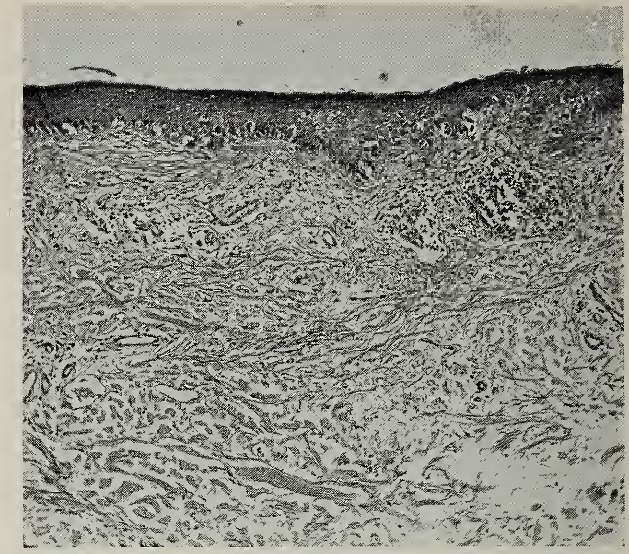

Figure 7.—Lentigo maligna. Section from brown border of lesion of unknown duration on scapular region of 82-year-old man. Melanocytes have undergone malignant neoplasia. Lymphocytic infiltrate is present. (Hematoxylin and eosin stain.) (×60)

Upon microscopic examination of melanoma, whether arising in lentigo maligna, in normal skin or in a pigmented nevus, one may see malignant melanotic cells, first at the epidermodermal junction (Figure 7) whence they are often carried in groups in the epidermis to the surface. Later, they penetrate into the dermis (Figure 8). Abundant lymphocytic infiltrate is present in the superficial dermis. The malignant cells are round, oval or fusiform, and usually contain some melanin, often very much, in form of granules the size of which is uniform in any individual cell. In the tumor stage, malignant cells of melanocytic origin may be seen growing outward against an epidermis thinned by pressure of the tumor. Mitotic figures, rare in the pretumorous stage, may be numerous in the tumor stage and associated with pronounced cellular anaplasia. Nonpigmented melanoma may contain no melanin, but may be slightly pigmented with hemosiderin. However, if studied by the silver nitrate method of Bizzozerro[6] melanin granules may be found, often only in melanophages. Metastatic tumors usually contain more anaplastic cells than the primary cutaneous tumor.

Metastatic pigmented melanoma is likely to occur in any tissue of the body, including the skin, either

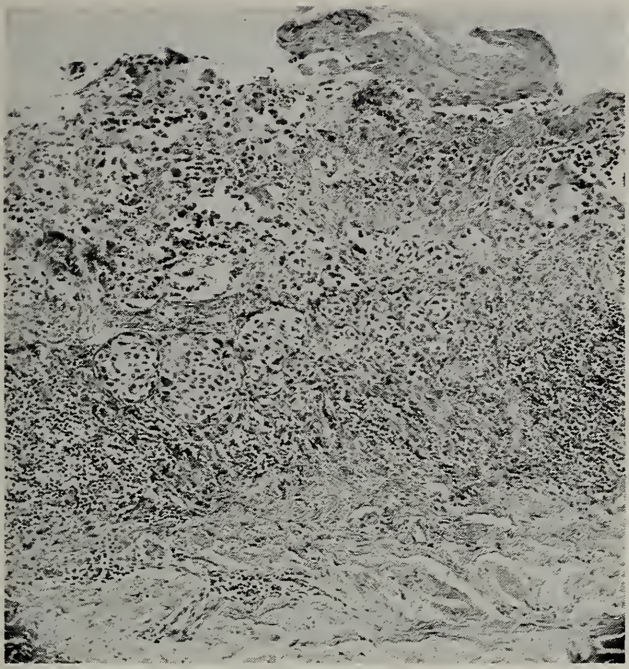

Figure 8.—From black elevated area of lentigo maligna, same lesion as in Figure 7. Melanoma cells are penetrating into the dermis. Pronounced lymphocytic infiltrate. (Hematoxylin and eosin stain.) (×75)

in the form of local satellite tumors as reported by Madden[15] between the primary site and regional lymph nodes, or as widely disseminated black or lighter tumors over any part of the body. Histologically they are not unlike a primary melanoma with so-called "junctional activity," as reported by Nicolau and Darier[19] and others, but denied by Allen.[1]

Microscopic differentiation must be made from lentigo, pigmented nevus, blue nevus, melanotic seborrheic keratosis, melanotic carcinoma, hemosiderotic histiocytoma, thrombosed hemangioma and other blood-containing tumors. Nonpigmented melanoma must be differentiated from pyogenic granuloma, juvenile melanoma (Spitz) and other nonpigmented tumors.

COMMENT

From the practical viewpoint, disregarding differences of opinion relative to the origin of nevus cells and melanoma cells, microscopic examination must supplement clinical diagnosis of melanoma and related tumors. At present, it is only in this way that accurate diagnosis may eventually be attained. Consultation is advisable on any microscopic section that suggests the diagnosis of melanoma. The life history of the neoplasm, with its many vagaries, should be appreciated by the pathologist, so that the best possible therapeutic management for any stage of the disease may be recommended. In this way, the prognosis can be improved.

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Hip Pinning

A New, Rapid and Accurate Method

GEORGE E. REY, *M.D.*, Porterville

Use of fixation with nails or pins to hold bone fragments together is one of the great improvements that has been developed in the past 20 years for dealing with fractures of the hip. There are many kinds of fixation apparatus, almost all with merit, but there has not been much improvement in methods of introduction of the pins or nails. Making drill-holes in the right direction and proper introduction of the pins is often difficult and necessitates multiple radiographs during the procedure. Sometimes these difficulties greatly extend the time the patient has to be kept in anesthesia.

In 1946 I devised an instrument (Figure 1) for directing the guide-pin, and I have used it since then in all patients who have been in my care and often in placing guide-pins for other physicians. In no case was the pin ever out of line in any direction. When this instrument is used, the only x-ray film taken during the operation is to make sure the pin is the right length. If careful measurements are taken and the necessary length can be definitely ascertained before operation roentgenograms during the procedure may be dispensed with. It was never necessary in any of the cases to change the position of the guide-pin once it was placed. Figure 2 is an x-ray film taken in a case in which the instrument was used.

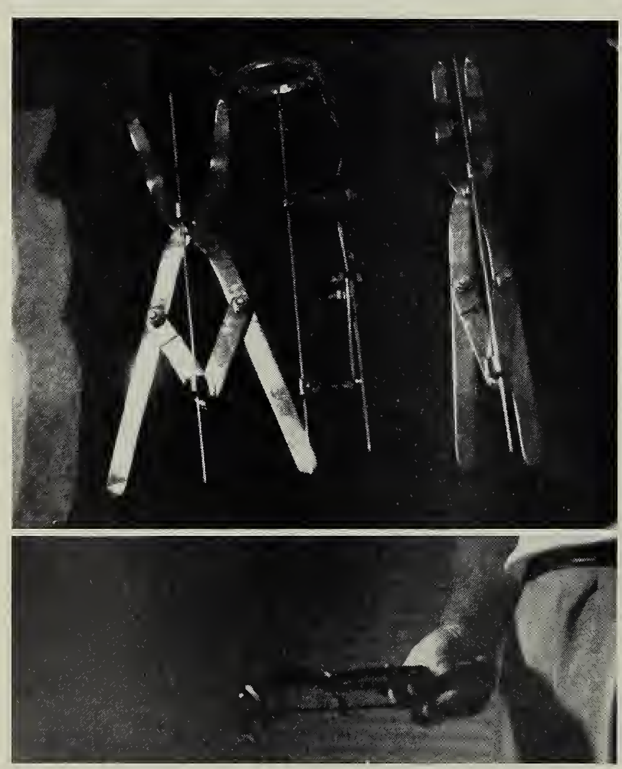

Figure 1.—Photograph of device for placing guide-pins in the femur in procedures for fixation of fractures of the hip. Size of device can be judged from inset showing it held in surgeon's hand.

METHOD

After accurate reduction of the fracture, the blades of the guiding device are separated and applied about the neck of the femur, one at a time, through a small incision in the anterior surface of the capsule. The blades are then locked, the pin inserted through the guide holes, as shown, and drilled to the depth previously determined. With this method, the guide pin must always hit the center of the neck of the femur, regardless of the size of the bone. At this point an x-ray film is made for exact determination of depth of penetration. The nail is then driven over the guide-pin in the usual manner.

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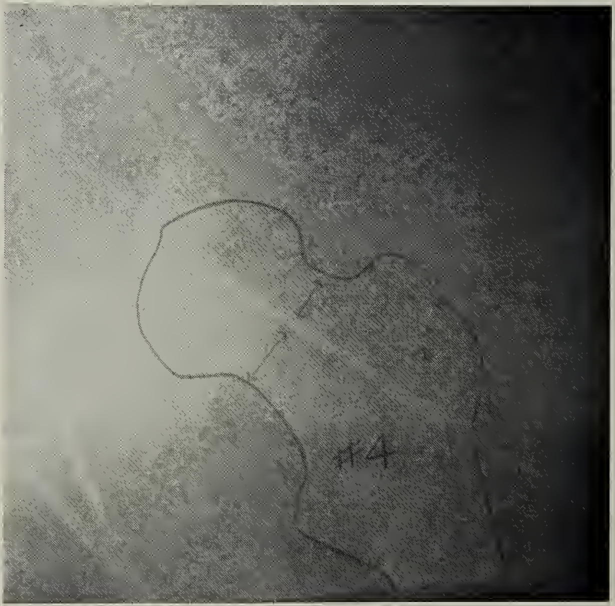

Figure 2.—Placement of pin in an intertrochanteric fracture in a 73-year-old woman. This was the only x-ray film made during operation.

Submitted March 8, 1957.

Post-traumatic Superior Laryngeal Neuralgia

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• Several years after tonsillectomy—or more quickly after foreign-body trauma—the superior laryngeal nerve may be so bound by fibrosis that any regional inflammation or further local trauma, aggravated by normal laryngeal movements, can give rise to localized neuritis at the thyrohyoid membrane and cause a characteristic pain.

In every one of 21 patients observed in the past five years, a point of tenderness was readily found by digital palpation over the lateral portion of the thyrohyoid membrane or over the superior cornu of the thyroid cartilage. Frequently the pain extended into the throat and became worse as anything was swallowed past this point.

Medical therapy alone or with external injection followed by five minutes of local massage relieved the pain in most cases. It seems possible that, in a more recalcitrant case, relief could be obtained by incising the thyrohyoid membrane so as to relax the superior laryngeal nerve.

MOST PHYSICIANS have treated patients for throat soreness with localized tenderness at one of the lateral edges of the thyrohyoid membrane. The author, after observing 21 instances of such regional pain during the past five years, concluded that these symptoms were due to superior laryngeal neuralgia. Since most patients recover after nonspecific therapy, the entity has not been closely scrutinized, nor its cause identified; but for the sake of those few patients with serious and refractory pain, a more definitive treatment is worth considering.

Little has been written about superior laryngeal neuralgia in recent years. Not long ago it was most often encountered in tuberculosis of the larynx and was treated with local ultraviolet rays or with alcohol injection of the nerve.

Cortesi[3] studied the effect of laryngeal nerve stimulation on vital functions in animals, and he noted that a strong stimulus caused a decrease in respiratory function, whereas a weak stimulus caused an increase. Electrical stimuli caused slight arterial hypertension, while chemical or thermal stimuli caused hypotension and bradycardia. The results were the same whether the stimulus was applied to the superior laryngeal nerve or to the laryngeal mucous membrane.

When De Kleyn[4] injected alcohol into the superior laryngeal nerve of a 34-year-old patient, earache on the injected side followed almost immediately, and the blood vessels in the eardrum became engorged. De Kleyn felt that there were aberrant nervous impulses along the nervus auricularis vagi.

Ogura and Lam[7] applied electrical stimulation to the superior laryngeal nerve in volunteer unanesthetized patients just before operations involving laryngectomy, and later compared their findings with microscopic studies of the excised nerves. They estimated that the superior laryngeal nerve contains about 15,000 myelinated fibers and 1,000 unmyelinated. The largest fibers (10 to 15 micra) made up one-third of this count but occupied about five-sixths of the total cross section of the nerve. The remaining one-sixth of the cross section was taken up by many small fibers (1 to 3 micra), numbering about half the total count, and fewer fibers of intermediate size numbering the remaining sixth. Milder stimulation, these investigators found, affected the large and medium-sized myelinated fibers carrying impulses at about 50 meters per second; sensations of pain and touch were produced. Stronger stimuli activated the thinly myelinated fibers at about 15 meters per second, causing pain. Very strong repetitive stimulation activated the smallest myelinated and the unmyelinated fibers carrying impulses at about 1 meter per second, giving rise to boring and deep burning pain, mucous secretion, swallowing movements, sudden closure of the vocal cords and apnea. This strong reaction, the investigators believed, was motivated through both direct and reflex pathways. None of the patients noted any taste sensations, but the investigators conjectured that taste if present might have been masked by the pain.

Bertoin[2] in 1946, discussing what he called "essential" neuralgia of the superior laryngeal nerve, presented a view quite similar to my own. He too felt the condition was not usually recognized as such, and believed it may follow laryngitis, angina, or, most commonly, influenza. Besides pain, he mentioned coughing and vocal instability as symptoms. He describes as pathognomonic a painful spot where the superior laryngeal nerve passes through the thyrohyoid membrane. He treated the condition satisfactorily by heat, by anesthetizing the piriform

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Presented before the Section on Ear, Nose and Throat at the 86th Annual Session of the California Medical Association, Los Angeles, April 28 to May 1, 1957.

TABLE 1.—*Clinical Data and Notes on Pathogenic Factors and Treatment in 21 Cases of Post-traumatic Superior Laryngeal Neuralgia*

Case	Sex	Age	Side	Previous Operation	Radiation	Cough	Length of Present Illness	Pertinent Past History	Examination	Treatment	Outcome
1.	M	55	Rt.	T.	Rt. ear	No	1 week	....	Not remarkable.	B-complex tablets, B_{12} injections intramuscularly.	Well in 1 week.
2.	F	47	Rt.	T.	....	No	1 week	Ulcer history, frequent headaches. Vocal instability.	Tonsil stub on rt., slight amount of pale edema of the vocal cords.	Xylocaine® injections and massage. Stomach and nerve relaxants.	Larynx appeared normal after 8 days. Pain a few hr., then well 3 mo. later.
3.	M	45	Lt.	T.&A. twice	Lt. ear	No	4 years	No help from "antibiotics," thyroid or throat spray.	Right tonsil stub red. Enlarged lingual tonsil.	Topical anesthesia no help. Xylocaine and massage 5 times in 2 months.	Gradual improvement. Well 7 months later.
4.	F	56	Rt.	T.	Rt. ear	Slight	1 week	....	Slightly red posterior wall of hypopharynx.	B-complex tablets and cough syrup.	Gradually well in 1 week.
5.	M	45	Lt.	T.&A.	Lt. ear	No	3 weeks	Upper respiratory infections start as laryngitis. 3 mos. trumpet practice aggravated condition.	Not remarkable.	Avoid strain.	No follow-up.
6.	F	71	Rt.	T.&A.	Rt. ear	No	1 week	....	Impacted cerumen, rt.	External heat and throat irrigation.	Palsy of rt. hypoglossal nerve developed. Neck well in 2 months.
7.	M	72	Rt.	None	Rt. side of face	No	6 months	Heart disease.	Nodule lower pole rt. thyroid.	Pain better with topical anesthesia in hypopharynx.	Well in 3 weeks.
8.	M	42	Rt.	T.	Rt. ear	No	4 days	2 attacks, 1 with upper respiratory infection, 2 upon overactivity.	Diffuse pharyngitis.	Antibiotics and rest.	Well in 1 week each time.
9.	M	35	Rt.	T.&A.	None	Mod.	10 days	Traveling salesman, heavy smoker.	Tonsil stubs, enlarged lingual tonsil, red hypopharynx and vocal cords.	Stopped smoking.	No follow-up.
10.	F	50	Rt.	T.	None	No	6 months	Has had potassium iodide, "antibiotics" and dental extractions.	Red lateral bands, epiglottis, and edema of rt. arytenoid.	Topical anesthesia in hypopharnx helped.	Gradually cleared.
11.	F	45	Lt.	T.	Lt. ear	Severe 1 month	1 year	Pain with upper respiratory infection in cold weather. Moderate smoker.	Not remarkable.	B_{12} injections, multivitamins, cough syrup.	Better in 10 days.
12.	M	55	Rt.	T.	Rt. ear	Mod. 3 weeks	6 weeks	20 yr. before, pain in throat and rt. ear 2 mo. after operation. Cicatrix treated by massage.	Small cyst anterior surface left side epiglottis.	Xylocaine injection and massage.	More pain for 2 days. Then better by 2 weeks.
13.	F	46	Rt.	T. twice	Rt. ear	No	2 months	Rt. otitis media acute purulent, age 20. Fell on rt. neck and arm with pain into rt. ear age 42. Rt. Meniere's at age 43.	Not remarkable, except for dark thick rt. ear drum.	Antibiotics and rest.	Gradually cleared in several weeks.
14.	F	43	Lt.	None	Lt. ear	Slight	2 years	See case report (Case 1).	Not remarkable.	Xylocaine inject., massage. B_{12} intramuscular, multivitamins.	Foreign-body fixation. Psychosis developed.
15.	M	53	Rt.	T.	Rt. ear	Slight	5 years	Pain with all upper respiratory infections. Recent bronchoscopy. Heavy smoker.	Tonsil stubs bilateral. Enlarged lingual tonsil. Cyst, rt. anterior surface of epiglottis.	Antibiotics and rest.	Well in 1 week.
16.	F	74	Lt.	T.; sinus	Lt. ear	No	2 years	Sinus operation age 57.	Not remarkable.	Xylocaine injection and massage.	Better since injection.
17.	F	50	Rt.	None	....	No	3 years	3 years before, choked on a chicken bone. Pain with all upper respiratory infections since. Vocal instability.	Red rt. vocal cord. Normal movement.	Xylocaine injection and massage. Penicillin nebulizer.	Gradually improved.
18.	M	39	Lt.	T.	Lt. ear	No	2 weeks	Heavy smoker.	Not remarkable.	Stopped smoking.	Well next visit 4 mos. later.
19.	M	53	Lt.	None	None	No	2 years	Moderate smoker. Heavy smoker 2 years ago.	Chronic purulent tonsillitis.	Tonsillectomy no help. Xylocaine injections and massage.	Gradually improved.
20.	F	64	Rt.	T.	None	Slight	5 years	Repeated pharyngitis.	Slight lateral-band pharyngitis.	Topical anesthesia helped. Massage, heat. B_{12} injections.	Well 1 month later.
21.	M	39	Lt.	None	Lt. side neck	No	1 year	Several years of pain with tonsillitis.	Mild tonsillitis.	Penicillin, Xylocaine and intramuscular B_{12} injections.	Well in 1 week.

sinus, or by external injection at the point of maximum tenderness.

As shown in Table 1, summarizing the cases of 21 patients with superior laryngeal neuralgia, the majority were in the fourth or fifth decade of life, the youngest aged 35 years. The sexes were equally represented. Significant perhaps is the fact that all the patients were right-handed, and that in 13 of the 21 the pain was right-sided.

Sixteen patients (76 per cent) had had previous throat operations—in every case many years before onset of the neuralgia. Two others dated the tenderness in the neck from a time when they had choked on a chicken bone. Thus, altogether 86 per cent had had surgical or other trauma to the throat. Only three patients were heavy smokers, and a reduction in smoking eased the pain. Cough was not mentioned by most patients, but six had had a cough for a variable time just before the onset of neuralgia, and apparently precipitating or contributing to it. An unusual precipitating cause was trumpet playing, which the patient had resumed, after many years' lapse, three months before onset of pain; the pain was so severe during playing that when last seen the patient felt he would have to give it up.

In every patient, a point of tenderness was readily found by digital palpation over the lateral portion of the thyrohyoid membrane or over the superior cornu of the thyroid cartilage. Frequently the pain extended into the throat and became worse as anything was swallowed past this point. Three patients had only this localized pain; in 13 the pain radiated to the ipsilateral ear, and in one it extended over the same side of the face. Two patients reported a variable or breaking voice, but they did not mention hoarseness. This vocal change might indicate some dysfunction of the cricothyroid muscle innervated by the external branch of the superior laryngeal nerve rather than the kind of dysfunction resulting in laryngitis.

When first seen, the patients had had neuralgia for periods of a week to five years. In cases in which the pain had been occurring for six months or more, it was usually associated with respiratory infections. On otolaryngologic examination eight patients appeared relatively normal; eight had some pharyngeal or hypopharyngeal inflammation involving, in a few, tonsil stubs or enlarged lingual tonsils. In four patients, laryngeal areas were inflamed; two appeared to have benign cysts on the anterior surface of the epiglottis, and one had a nodule in the lower pole of the thyroid on the painful side.

Treatment of these patients is detailed in Table 1. The neuralgia, it is felt, may be self-limiting in many cases, although in general the longer the pain has been present, the more difficult it is to relieve completely.

Two cases seem worth reporting more fully:

CASE 1 (No. 14 in Table 1): A 43-year-old house servant had choked on a chicken bone two years before she was first seen, and had a fixed idea that some of the bone was still in her throat. Shortly after the choking episode she had been told, before undergoing tonsillectomy, that the chicken bone would be removed at operation. Since the localized pain in the area of the left thyrohyoid membrane persisted after tonsillectomy, roentgen studies were made but did not show any foreign bodies, nor did laryngoscopy and esophagoscopy under general anesthesia, done by a thoracic surgeon. At this time the patient felt that the bone was gone but that a piece of glass was stuck in the same site. The pain could be temporarily relieved by anesthetic injection about the superior laryngeal nerve, but the patient persisted in her fixed idea that a foreign body was lodged in her throat. Other mental aberrations became evident, and psychiatric consultation was advised.

CASE 2 (No. 19 in Table 1): A 53-year-old man had for two years had recurring pain in the left side of the throat, worse at night and in the early morning, with no radiation to other areas. Up to ten months before he was first seen, he had been smoking about two packs of cigarettes a day, but recently he had been smoking only a couple of cigars a day. On initial examination the throat appeared normal except for the tonsils, which were small but yielded liquid pus from the crypts on pressure, and an area of point tenderness over the left thyrohyoid membrane. A diagnosis of chronic tonsillitis and superior laryngeal neuralgia was made. Tonsillectomy was done by a hospital resident, and there was considerable postoperative pain radiating into the left ear. Three months later the patient was treated for pain in the left trapezius muscle from cervical arthritis. Six months after tonsillectomy he returned complaining of the same pain in the left thyrohyoid membrane area, gradually increasing for the preceding three months. This was relieved by injection of the left superior laryngeal nerve, and subsequent injections for recurrence were given after intervals of ten days, six weeks and three weeks. The pain lessened after each injection, and a year after the fourth injection the patient had not returned.

DISCUSSION

In understanding the problem of pain arising from the superior laryngeal nerve, it is important to keep in mind the anatomical course of the internal branch of this nerve from the mucous membrane of the supraglottic, epiglottic, base of the tongue, and medial parts of the piriform sinuses through the thyrohyoid membrane to the noduse ganglion of the vagus nerve (Figure 1). Between these two latter structures, the nerve branch passes posteriorly, superiorly, and a little laterally, outside the middle pharyngeal constrictor muscle and the stylopharyngeus muscle to the vagus nerve (Figure 2). The glossopharyngeal nerve is superior to the superior laryngeal nerve and has many branches going to the pharyngeal musculature and to the base of the tongue for taste discernment. The glossopharyngeal nerve passes very close to the lower pole of the tonsil and is separated from it only by the thin fibers of the palatopharyngeus muscle in one area.

The superior laryngeal nerve, lying more inferior and outside more muscle tissue than the glossopharyngeal nerve, can still be involved in a roughly done tonsillectomy. If the muscular bed of the palatine tonsil is torn, especially at the lower pole, there will certainly be more fibrosis and retraction. The glossopharyngeal nerve and the superior laryngeal nerve may both be caught in some of the fibrosis resulting after tonsillectomy. Whereas the function of the glossopharyngeal nerve is not impaired if fibrous tissue pulls it one way or another, the internal branch of the superior laryngeal nerve may well be affected by fibrous retraction, for the retraction may shorten and kink the nerve where it penetrates the fibrous, unyielding thyrohyoid membrane. Several years after tonsillectomy—or more quickly after foreign-body trauma—the superior laryngeal nerve may be so bound that any regional inflammation or further local trauma, aggravated by normal laryngeal movements, can give rise to localized neuritis at the thyrohyoid membrane and cause the pain previously described. One way to test this theory would be to incise the thyrohyoid membrane so as to relax the superior laryngeal nerve, rather than to resect a portion of the nerve as has been done at the Mayo Clinic.[9] Until such an approach can be validated in suitable cases, medical therapy alone or with external injection followed immediately by five minutes of local massage relieves the pain in almost all patients.

Several other conditions which must be considered with pain in the neck or throat before making a diagnosis of superior laryngeal neuralgia are glossopharyngeal neuralgia, laryngeal perichondritis, neoplasms, cervical arthritis, fibromyositis, globus hystericus, and pain from the autonomic nerves associated with the local blood supply.

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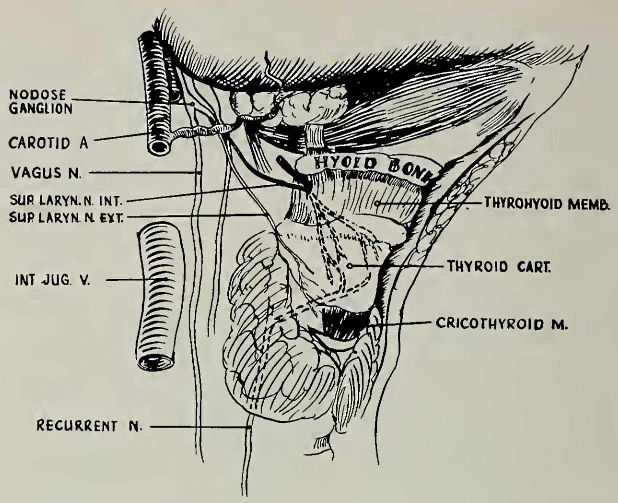

Figure 1.—Passage of the superior laryngeal nerve through the thyrohyoid membrane.

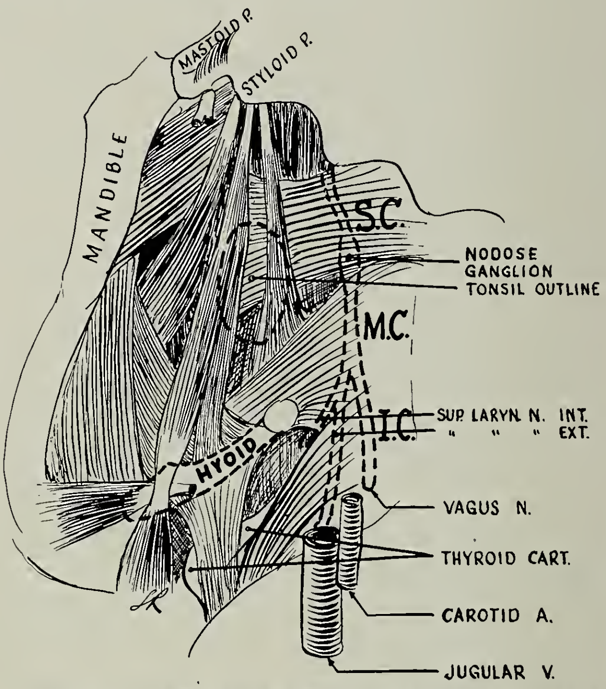

Figure 2.—Posterolateral view showing relation of vagus nerve and branches to pharyngeal musculature. S.C. = Superior constrictor; MC = Middle constrictor; I.C. = Inferior constrictor.

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Discussion by **MARIO ACQUARELLI,** *M.D., Los Angeles*

Dr. Baxter has brought to light a clinical diagnosis of a condition which some of us have seen; we can recall the symptoms and findings but perhaps the condition did not stimulate us to the point of further study or investigation.

In Denker and Kahler's "Handbook of Ear, Nose and Throat"[1] Boeninghaus (1) described a case and called it "nervous pain of the throat." He based his diagnosis on typical localized painful pressure points in the lateral part of the thyrohyoid membrane, and (2) on the lateral side of the trachea, the latter location being the recurrent laryngeal nerve pressure point. In the same textbook, Amersbach stated that true neuralgias of the superior laryngeal nerve cause severe subjective complaints and that the origin may be central or peripheral (neuritis). He had in some cases isolated typical pressure points which did not correspond with localization of pain as described by the patient. Amersbach cited Gottstein's report of one patient who experienced superior laryngeal neuralgia only while talking. Another contributor, Schnitzler, described a case with anesthesia and pain and called it "anesthesia dolorosa." The pain as described by Schnitzler was burning and lancinating in character with radiation to the ear.

Therapy, as summarized by Amersbach, consisted of the generally prescribed antineuritics. For refractory cases, injections of ½ to 2 per cent novocaine solution into the superior laryngeal nerve were recommended, and for the most severe cases, alcohol injection or severance of the superior laryngeal nerve was reported successful in the absence of a central lesion.

I have observed superior laryngeal neuralgia in patients with tuberculosis or carcinoma of the larynx. Therapy consisted of injections or section of the superior laryngeal nerve. In the future I will be on the alert for this condition, thanks to Doctor Baxter's timely paper on this subject.

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CASE REPORTS

Adenocarcinoma of the Lung Treated with X-Ray and Nitrogen Mustard—Five Years From Discovery to Death

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IT IS THE PURPOSE of the following case report to suggest that in dealing with carcinoma of the lung, x-ray therapy, in conjunction with surgical excision or chemotherapy or by itself, can improve the present therapeutic results. Moore[3] reported survivals of seven years in one case and nine years in another with x-ray therapy alone. At the time this report was written, Roswit[5] was observing one patient with mucoepidermoid carcinoma of the lung that was considered inoperable at the time of diagnosis. X-ray therapy, 3,500 r, was given and the patient has survived nine years to date. Burnett[2] reported one patient surviving nine years with x-ray therapy. Smart and Hilton[6] reported that eight patients of 203 who (with a few exceptions) had inoperable pulmonary carcinoma, survived more than five years with x-ray therapy alone. One of the patients in the series had an operable lesion but refused operation and another had severe chronic bronchitis which made x-ray therapy seem more judicious. Brooks[1] reported the following survival times of 306 patients, all with histologically confirmed carcinoma of the lung, who were treated by various methods:

Treatment	1 to 2 Years	2 to 3 Years	Over 3 Years
X-ray	45	12	4
Surgical operation	9	5	2
Chemotherapy	5	0	0
X-ray and chemotherapy	6	2	0
Not treated	3	0	0
Operation and x-ray	3	0	0

In a personal communication dated August 6, 1957, Smithers[7] reported cases in which patients with carcinoma of the bronchus lived five years or more following radical x-ray therapy (Table 1).

In appraising the end results in treatment of cancer of the lung, Overholt[4] gave the data shown in Table 2 which include the five-year survival rates from time of treatment.

Recently there have been reports in the literature of five-year survival with the use of x-ray therapy alone. Perhaps, only patients with "inoperable" cancer should be treated by x-ray only, or x-ray and chemotherapy, but is this necessarily so? An additional case of prolonged survival with treatment by x-ray supplemented by nitrogen mustard therapy is herewith submitted. In retrospect, the patient presumably had a bronchogenic carcinoma for at least one year before therapy was instituted. X-radiation was begun four years and ten months before the death of the patient. At the time of bronchoscopy in October, 1949, it was decided that the lesion was inoperable. It was then, only as a means of palliation, that roentgen radiation therapy was given. When symptoms recurred almost three and a half years later, x-ray therapy was again given and this treatment was supplemented by nitrogen mustard therapy. The patient then lived for an additional period of a year and a half. For the last 20 months of his life, he had complete atelectasis of the right lung with compensatory shifting of the mediastinum. The heart shifted entirely to the right side of the chest. The results of x-ray therapy were so good that for several years there was a disturbing question as to whether the patient had ever really had a carcinoma. This case is presented in the hope that x-ray therapy will not necessarily be looked upon as a last resort. In view of the natural variation of bronchogenic carcinoma, many patients might well survive as long or longer with x-radiation as with surgical therapy. (The case here reported may be regarded as one at the favorable end of the spectrum of treatment.)

REPORT OF A CASE

The patient, a man 74 years of age, was first observed August 2, 1949. He complained of an intermittent cough of two to three years' duration which, although worse during the night, was present at all times. This caused severe insomnia and wheezing, without, however, any definitive cardiorespiratory symptoms. The past history was not significant except for notably long-lived ancestry, the patient's father having died at the age of 94 and his mother at the age of 86. He had three brothers, all in their seventies, all living and well, and one sister who had

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Presented before the Section on Internal Medicine at the 86th Annual Session of the California Medical Association, Los Angeles, April 28 to May 1, 1957.

TABLE 1.—*Survival for More Than Five Years Following Radical X-ray Therapy for Patients with Carcinoma of the Bronchus (Smithers')*
(Follow-up from date of first treatment to end of December 1955)

Year	Number alive at the end of										
	5 Yrs.	6 Yrs.	7 Yrs.	8 Yrs.	9 Yrs.	10 Yrs.	11 Yrs.	12 Yrs.	13 Yrs.	14 Yrs.	15 Yrs.
1940	1	1	1	1	1	1	1	1	1	1*	
1941											
1942											
1943											
1944	1	1	1	1	1	1	1		Anaplastic carcinoma.		
1945											
1946	1	1	1	1		Unconfirmed histologically, but died of multiple metastasis.					
1947	2	2	2	2	One with squamous-cell carcinoma had pneumonectomy following irradiation. One unconfirmed histologically, was found to be inoperable at thoracotomy.						
1948	1	1	1		Squamous-cell carcinoma.						
1949	1	1			Oat-cell carcinoma.						
1950	1				Squamous-cell carcinoma.						

*Squamous-cell carcinoma; died of intercurrent disease with no sign of recurrence.

TABLE 2.—*Overholt's[4] Review of Treatment of Cancer of the Lung at Various Stages by Various Methods*

Treatment	When the Lesion Was Localized		When the Lesion Was Regional		When There Were Metastases		When Lesion's Extent Unspecified	
	Cases	5-Year Survival	Cases	5-Year Survival	Cases	5-Year Survival	Cases	5-Year Survival
Surgical	467	133—29%	584	59—10%	150	3— 2%	146	37—25%
X-ray	77	0— 0%	131	2— 2%	157	0— 0%	389	7— 2%
Surgical and x-ray	15	2—13%	50	7—14%	26	0— 0%	25	2— 8%
Other or none	356	6— 2%	575	1—0.2%	1562	2—0.1%	969	32— 3%
	915	141—15%	1340	69— 5%	1895	5—0.3%	1529	78—4.7%

died at the age of 68 of "heart trouble." For sixty years the patient smoked from one to two packages of cigarettes every day. He insisted that the cough was definitely different from a previous "cigarette cough." There was no hemoptysis.

On physical examination, the blood pressure was 160/80 mm. The patient appeared to be his stated age. There were many senile keratoses. The significant physical findings were limited to the heart and lungs. The heart was normal to percussion and auscultation except for frequent ventricular ectopic beats. On auscultation of the chest, occasional inspiratory wheezes were heard anteriorly over the right chest, particularly over the area of the right middle lobe. There was no limitation of inspiratory excursion. Hemoglobin content of the blood was 14.5 gm. per 100 cc. Erythrocytes numbered 5.3 million per cu. mm. and leukocytes 11,400 per cu. mm. with the cell differential within normal limits. Results of urinalysis were normal. Electrocardiograms were read as within normal limits. The sedimentation rate (Cutler) was normal.

The patient was treated symptomatically and was told to stop smoking, but he did not show any improvement. Fluoroscopic examination showed increased bronchovascular markings in the right middle lobe area and clouding in the right costophrenic sinus area. These observations were substantiated two days later by x-ray examination (Figure 1). At this time, the presumptive diagnosis of a carcinoma of the lung was suggested. (A previous x-ray examination of the chest done elsewhere on December 3, 1948, had shown similar changes of increased bronchovascular markings in the right middle and lower lobes.) Bronchoscopic examination was carried out October 12, 1949, at which time a diagnosis of carcinoma of the lung was made both macroscopically and microscopically (Figure 2). There was a growth in the right main bronchus near the middle lobe orifice, with a 60-degree rotation of the carina. In view of this distortion, and the patient's age, it was felt to be an inoperable lesion.

The patient was symptomatically improved following bronchoscopy and was unwilling to accept therapy until January, 1950. He then was referred for x-ray therapy. Treatment was administered through three 10 x 10 cm. ports aimed at the right hilar area. Anterior, lateral and posterior ports were used and each port received 2,000 r (air). The distance was 50 cm. and the half value layer was 1.7

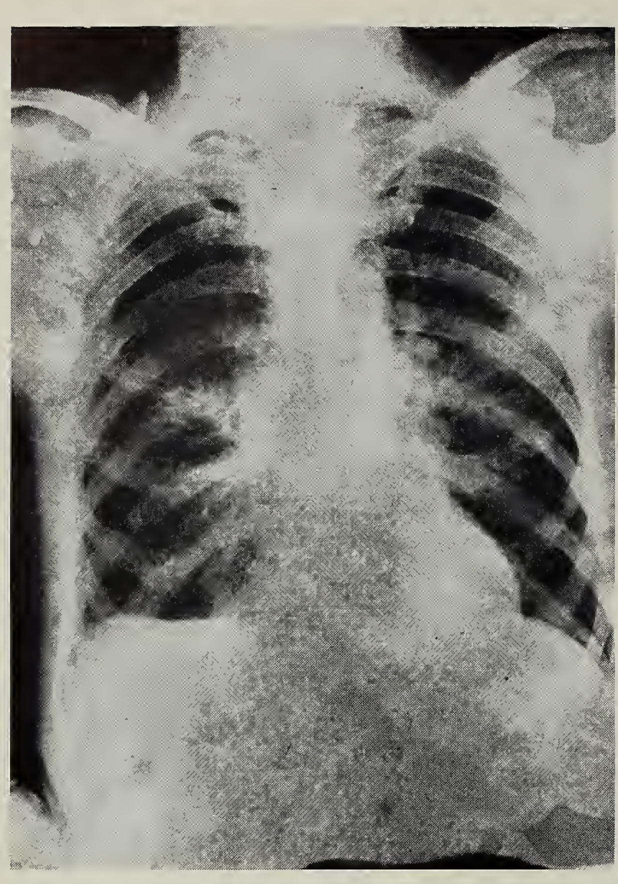

Figure 1.—Initial x-ray film of chest taken October 12, 1949.

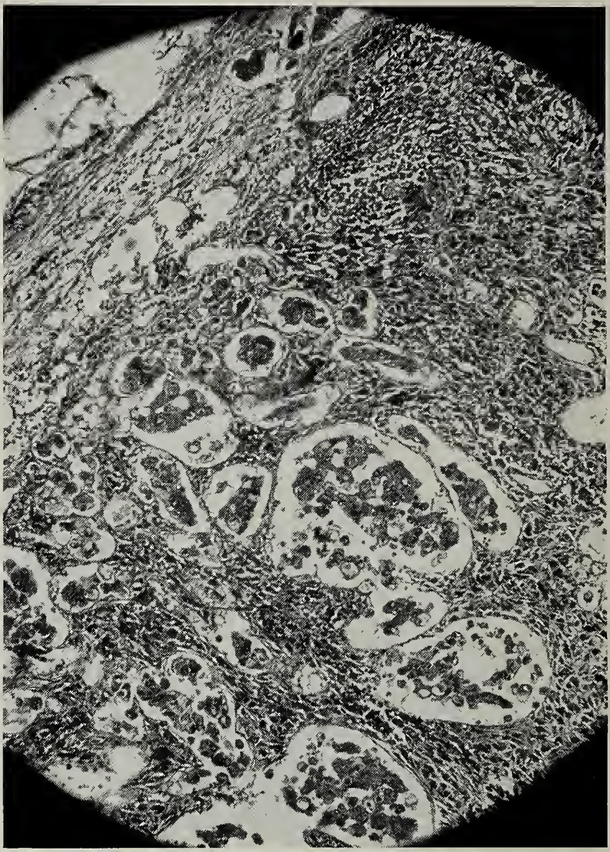

Figure 2.—Photomicrograph of bronchial biopsy tissue, excised October 12, 1949 (×400).

mm., copper. This therapy was given between January 10, 1950, and February 28, 1950. At the end of the course of treatment, the patient complained to his wife about some difficulty in swallowing. Fluoroscopic examination revealed no lesion. Roentgenograms taken on March 3 and April 3, 1950, revealed no essential change in the mass in the right hilar area. However, by June 9, 1950, some decrease in the right hilar mass was noted (Figure 3). By this time the patient was feeling very much better. The cough was less and appetite was improved. In March, 1950, because of a decrease in hemoglobin content to 10.8 gm. per 100 cc. and of erythrocytes to 3.7 million per cu. mm., an infusion of 1,000 cc. of whole blood was given. He temporarily improved, but two more units of whole blood had to be given in June, 1950, at which time digitalization was carried out because of shortness of breath and recurrence of cough.

On September 28, 1950, 11 months after the first bronchoscopic examination, bronchoscopy was done again and only abundant purulent material with no neoplastic cellular constituents was obtained. Symptomatic treatment was given for episodes of syncope, weakness, profuse perspiration, dyspnea and vague abdominal pains often difficult to interpret as to their cardiac or pulmonary origin. At no time did electrocardiograms indicate myocardial infarction and there was presumption that these episodes were

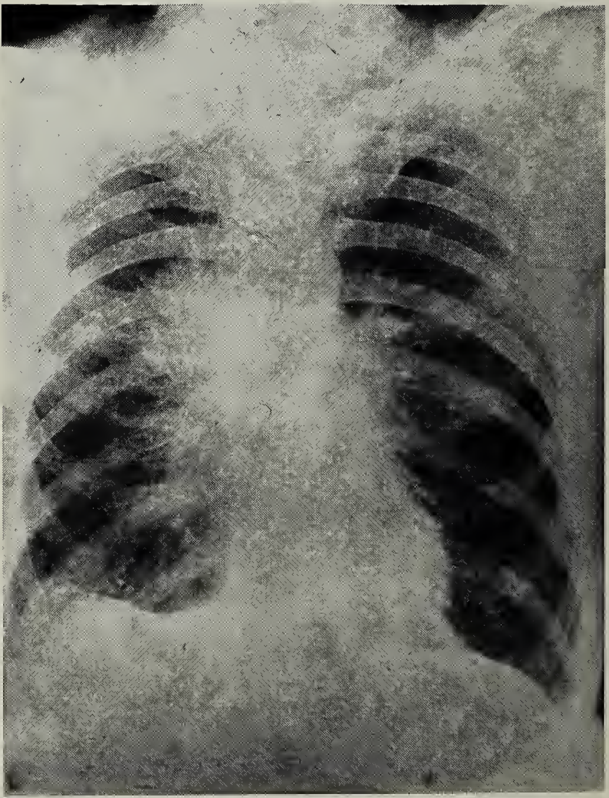

Figure 3.—X-ray film of chest taken June 9, 1950.

on the basis of infection. During this time the cellular contents remained within normal limits. In spite of all of the symptoms from time to time, no significant changes were elicited by repeated physical examination. (From a clinic record about this patient, written by Dr. William W. Newman of San Francisco, in February, 1930, it was learned that the patient at that time had similar complaints as well as evidence of pronounced peripheral arteriosclerosis.)

In July, 1952, bronchoscopic examination was done again and it showed retrobronchial pressure on the right middle lobe bronchus, which was, however, patent. No abnormal cells were observed in material aspirated from the stomach and from the bronchus. It was further noted on fluoroscopic examination at the time that there was some atelectasis of the right middle lobe. In March, 1953, the patient was put in hospital because of dyspnea. The use of positive oxygen pressure with the Bennett valve was attempted without success. On May 18, 1953, x-ray therapy was begun again. During this course, the patient received 1,400 r (air) through a large port to the right anterior chest wall and 600 r (air) through a large port to the right posterior chest wall. The half value layer was 1.0 mm. copper. X-ray therapy was completed on May 29, 1953, and the patient then received 30 mg. of nitrogen mustard intravenously, accompanied by the use of corticotropin (ACTH). An infusion of two units of blood was given about one month later. By August 5, 1953, the patient said that he felt fine. Surprisingly, he remained rather comfortable for the next four months except for some dyspnea on exertion and very mild cough. From December, 1953, until December, 1954, when he died—at the age of 80—the patient had increasing episodes of paroxysms of coughing, dyspnea, vascular collapse and cyanosis, and decreasing activity, physical and mental. The last two months of his life, he was completely bed-ridden. (Figure 4 shows a photograph of the last roentgenogram of the chest.)

Pathologist's Report

The pertinent observations at autopsy were reported as follows:

"The body was that of a man appearing in his seventies, small, with general cachexia. The chest cavity was opened, revealing a complete collapse of the right lung down into an approximately 5 cm. nubbin and a complete shift of the mediastinum toward the right with decided compensatory enlargement of the left lung.

"The heart was rather small and sclerotic, with delicate blood vessels throughout, without the slightest suggestion of coronary occlusion. The myocardium was somewhat brownish and softened, but not fibrotic or infarcted. The endocardium was smooth, the valves competent but slightly sclerotic. There was hypertrophy of the right ventricle.

"There was massive compensatory emphysema of the left lung, symmetrical and without particular blebs. Careful search through this lung revealed no metastatic lesion. The right lung was approximately 5 cm. in diameter, completely collapsed, and there was a moderate amount of fibrosis on this side, particularly of the pleura. Very careful search revealed no evidence of metastasis at any point and no evidence of remaining tumor.

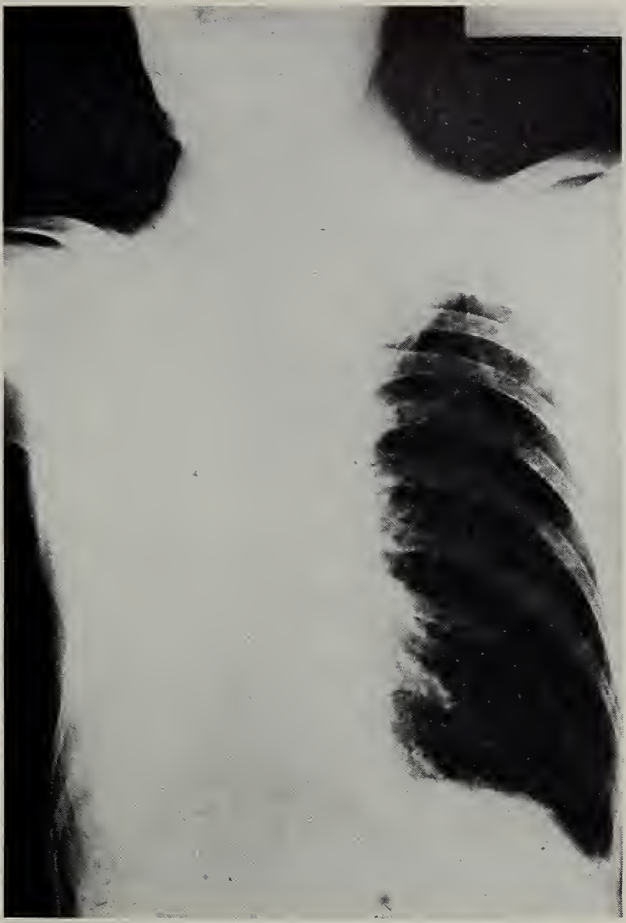

Figure 4.—X-ray film of chest taken September, 1954, showing complete atelectasis of the right lung and shift of the mediastinum.

"There was a moderate amount of congestion in the liver, but no obvious fibrosis. The gallbladder was present and normal as was the spleen. The kidneys were moderately sclerotic but with a well formed pattern of a moderately old person. The bladder was almost empty and was not inflamed. The stomach showed no dilation. Careful search through it revealed no evidence of tumor, either in it or up and down the retroperitoneal area. The rest of the intestinal tract was almost empty, and no gross abnormalities were observed.

"*Macroscopic diagnosis.* Treated carcinoma of right lung with pulmonary fibrosis and atelectasis; mediastinal shift with massive left pulmonary emphysema.

"*Microscopic description.* Sections through the right lung at the stump of the amputated bronchus and lung showed obvious infiltrations by neoplastic cells (Figure 5). The same neoplastic cells were epithelial, large with abundant cytoplasm, prominent nuclei and many mitotic figures. Some of the cells were large enough to almost suggest a partial squamous pattern, although actual keratin and pearl formation was not apparent. The right lung showed slight atelectasis and moderate emphysema but no other specific changes or evidence of present inflammation.

"Examination of the liver, adrenal glands, diaphragm and kidneys revealed no significant pathologic changes.

"*Anatomic Diagnosis*

"1. Carcinoma of right lung with radiation therapy with (a) persistence of carcinoma in stump of bronchial area and mediastinal lymph nodes; (b) radiation fibrosis of lung and pleura.

"2. Massive pulmonary emphysema, left side, with shifted mediastinum.

"3. Cor pulmonale and cardiac failure."

DISCUSSION

The original biopsy of the bronchus (obtained at the French Hospital) (Figure 2) was reviewed. This section revealed very small bronchial fragments with a surface epithelium that was quite pleomorphic and mitotically active. One or two points of invasion were noted and there was a striking degree of cellular irregularity. Although the specimen was a small one, it was our opinion that it represented an unequivocal carcinoma, although from the biopsy tissue the degree of invasion or its stage was not apparent. At autopsy, the mediastinal area and radiated lung were quite fibrotic (Figure 5) due to the radiation response, so that it was impossible to discern grossly the neoplasia which was so obviously present on microscopic examination. It was apparent that a carcinoma did exist originally and that it did respond to radiation, although at autopsy there was persistent neoplasm locally and in the regional lymph nodes.

COMMENT

Although this patient required a great deal of careful general medical management, the clinical course leads one to believe that he survived longer than he would have without radiation therapy. He had interludes of months during which he was reasonably comfortable and happy. He lived almost to the age of 80, but his adaptation to the confinement required by this, his first serious illness, was poor. We believe that had the nature of his illness been more clearly understood by him, he would have had an even more favorable response to treatment. For example, he refused several times our suggestions that he receive selective pneumothorax therapy which might have alleviated to some extent the symptoms of complete right lung atelectasis and mediastinal shift. From the autopsy report it seemed that death was owing more to a physiological inability to continue life under the circumstances of the extreme shift of the mediastinum and the advanced emphysema in the functioning lung, than to the carcinoma, which was still localized entirely to the right hilar area.

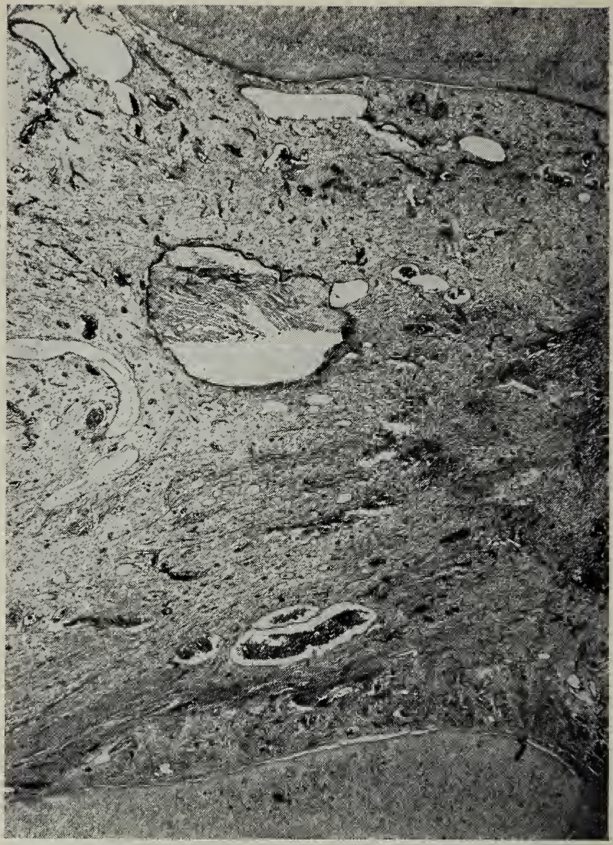

Figure 5.—Representative section through fibrotic stump of right lung at postmortem examination (×200).

This case report may add evidence to indicate that carcinoma of the lung is not always a hopeless disease as far as therapy is concerned. In particular we feel that the use of radiation therapy for patients with pulmonary tumors that are considered "inoperable" is worth while.

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Hazard of Fluid Distention of the Balloon of a Miller-Abbott Tube

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EXTENSIVE AND EFFECTIVE USE has been made of the double lumen Miller-Abbott intestinal tube since it was introduced in 1934.[3]

To our knowledge, however, only three reports of irreversible fluid distention of the balloon have appeared.[1,2,4] In the first,[2] nourishment was introduced through the lumen labeled "Pilling." The substance became caked in the tube, filled the balloon and could not be aspirated. The full balloon ruptured at the cardia during attempted withdrawal of the tube. In the second report,[4] nourishing solution had been introduced into the balloon and at laparotomy was found to be firmly coagulated. In the third report,[1] milkshake feedings were introduced into the balloon and intestinal obstruction developed. Efforts to withdraw the tube were unsuccessful. Upon laparotomy, the balloon was observed to be distended with fluid.

REPORT OF A CASE

The patient was a 42-year-old man who had undergone colectomy with ileoproctostomy for carcinoma of the rectosigmoid and disseminated adenomatosis of the colon.

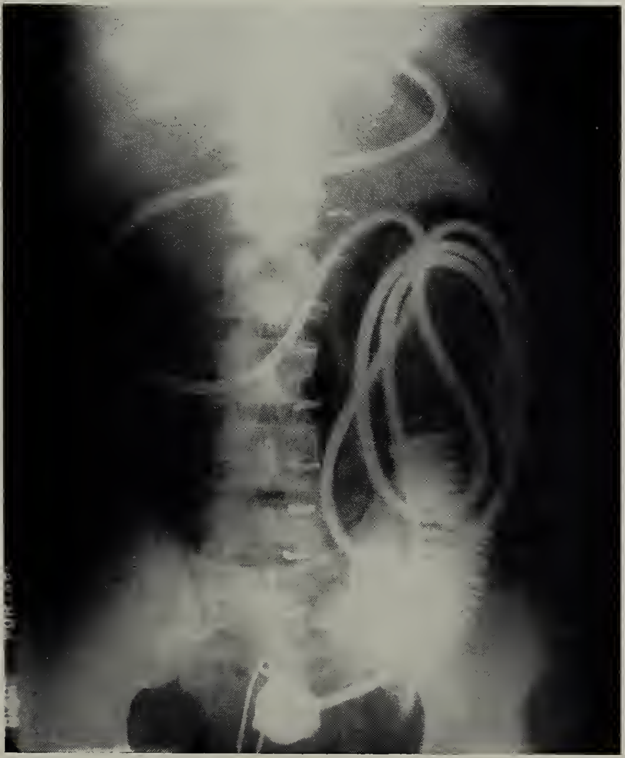

Figure 1.—One hour after instillation of barium with crescentic flow about distended balloon of Miller-Abbott tube. Tip of tube appears beyond site of obstruction. Five cc. of mercury within 200 cc. of water has assumed spherical shape.

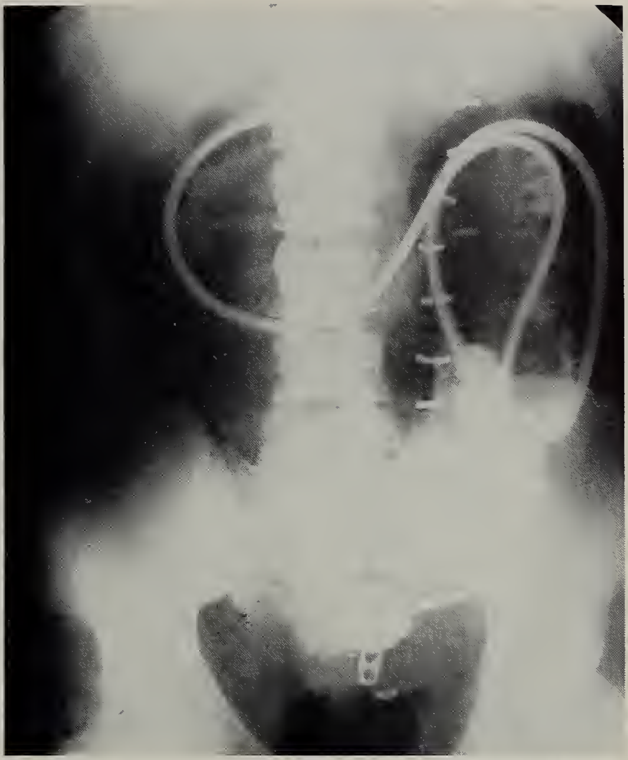

Figure 2.—Six hours after Figure 1, retrograde flow of barium is observed. Spherical shape of mercury persists.

On the sixth postoperative day, a Miller-Abbott tube had to be introduced because of mechanical obstruction of the small bowel. The bowel was decompressed and the patient did well until the eleventh postoperative day, when distention recurred. The position of the spherical mass of mercury remained stationary for two days. An hour after the instillation of barium, a plain film of the abdomen showed a large crescentic shadow of barium at the distal end representing the site of obstruction, with the tip of the tube beyond (Figure 1). Six hours later there was retrograde flow of barium along the tube (Figure 2). The abdomen was reopened on the thirteenth postoperative day because of intractable intestinal obstruction and wound dehiscence. The obstructing balloon of the Miller-Abbott tube was distended with 200 cc. of water. Recovery followed aspiration of this fluid.

A bedside attendant acknowledged putting irrigating water down both lumina for several days before the recurrent obstruction appeared.

DISCUSSION

All personnel rendering bedside care must learn to use this valuable therapeutic tool properly. The orifice to the balloon should be taped and plainly marked to avoid such a potentially serious accident. It would be desirable for the tube to be manufac-

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Submitted August 15, 1957.

tured with the aperture to the balloon at right angles to the long axis of the tube and at least three inches from the proximal open end intended for suction.

Of probable diagnostic significance is the spherical shape of the mercury, representing a surface tension phenomenon in the presence of another fluid. Mercury alone tends to appear as an amorphous mass. Hence, when mercury appears globular, an attempt should be made to aspirate fluid from the balloon.

SUMMARY

A case of intestinal obstruction due to excess fluid in the balloon of the Miller-Abbott tube re-emphasizes the need for proper bedside care to prevent such a complication. It is also suggested that the two proximal ends of the double lumina be more clearly separated at the time of manufacture.

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Torsion and Infarction of the Normal Ovary in Children

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AN UNUSUAL CAUSE of acute abdominal symptoms in children is torsion with infarction of a normal ovary. Hinshaw and Kugel[4] reported such a case in 1956 and said that 21 cases in all had been reported in the English literature up to that time. However, Baron[1] in 1932 reported a series of 26 cases. Downer and Brines[3] collected reports of 18 cases from the literature and reported a case they had observed. Many of the cases reported in each of these series are of course also included in the others. Baron reported one instance of torsion of the normal ovary, and later torsion and infarction of the remaining ovary in the same patient, necessitating bilateral oophorectomy and salpingectomy.

Although such a condition should possibly be considered in the differential diagnosis of lower abdominal pain, its rarity would put it far down on the list of possibilities. Torsion of the right ovary almost invariably causes clinical symptoms that may be mistaken for those of acute appendicitis, as happened in the case herein reported. Torsion is more common on the right side than on the left. The diagnosis is difficult because of the rarity of tubo-ovarian disease in children. The symptoms of ovarian torsion may simulate those of bowel obstruction or ureteral colic. Rarely is the diagnosis made until exploratory laparotomy is done because of the obviously acute abdominal emergency.

In cases reported previously the clinical features have been similar. At first the pain is cramp-like and not too well localized. Vomiting frequently ensues, and the pain then localizes to either of the lower quadrants of the abdomen and becomes more steady in character. Sometimes a history of previous attacks can be elicited. Upon physical examination, tenderness usually is noted either on the right or left side of the lower abdomen and in some cases other signs of peritoneal irritation are present. There may be radiation of pain to the thigh or genitalia. In several reported cases it was noted that a small, tender pelvic mass was felt on rectal or pelvic examination.

REPORT OF A CASE

A 12-year-old white girl was taken to a physician's office in the early morning of April 28, 1957, because of abdominal pain which had begun 12 hours previously. At first the pain was described as being cramp-like, and not localized. By the time of first examination the pain was beginning to localize to the right lower quadrant and was becoming more steady in character, but with occasional exacerbations. Mild tenderness was noted in the right lower quadrant, but there was no rebound and no rigidity. No masses were felt either abdominally or rectally. The patient did not have fever. Leukocytes numbered 5,000 per cu. mm. and the cell differential was within normal range. No abnormality was noted in the urine.

The family was instructed to bring the child back later in the day for further evaluation, and it was in the late afternoon on her return that surgical consultation was obtained. During the day the pain had become increasingly severe and steady and was more decidedly localized to the right lower quadrant. Vomiting had occurred during the day. The patient had no previous history of digestive distress or symptoms referable to the genitourinary tract. She had had two menstrual periods, the second one having been a week before the present illness. Upon examination the patient appeared to be acutely ill. She tended to lie on her right side with the legs flexed. The temperature was 99.6° F., the pulse rate 100 and respirations 22 per minute. The face was pallid and the skin clammy. There was pronounced right lower quadrant tenderness below McBurney's point, with guarding and mild rigidity. Peristalsis was hypoactive. Upon rectal examination tenderness was

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Submitted September 23, 1957.

noted greater on the right, but no masses were felt. The hymen was intact. The impression was very definitely that the patient had acute appendicitis, and she was immediately admitted to the hospital and prepared for operation. At the time of admittance, leukocytes numbered 10,900 per cu. mm.—79 per cent polymorphonuclear cells, 1 per cent eosinophils and 20 per cent lymphocytes. The hemoglobin value and the erythrocyte content were within normal limits. No abnormality was noted in the urine.

A McBurney incision was made. The appendix appeared to be normal but there was a small amount of clear, straw-colored fluid in the lower abdomen. A mass was felt in the cul-de-sac and upon examination it was observed to be the right tube and ovary. The ovary was enlarged to approximately 7x4x3 cm. in diameter. It was dark and edematous and the surface mottled with extravasated black clotted blood. The tube was purple, swollen and edematous. The pedicle was unusually long and was twisted for two complete turns at its base. Immediate resection was considered, but first the pedicle was untwisted and the ovary and tube replaced in the abdomen while the appendix was being removed. Several minutes later they were inspected again, and there was then obviously a return of arterial circulation. The tube was bright red and the ovary, which had diminished in size by about one-third, had taken on a pinkish-white coloration except for the small areas of hemorrhage on the surface. When the surface was nicked in several places, bleeding showed that there had been a return of adequate arterial circulation. It was decided to preserve the ovary and the tubo-ovarian structures were sutured in normal position to the right broad ligament in such a way that torsion could not recur. No complications developed and the patient was discharged from the hospital on the third postoperative day.

COMMENT

Some observers have ascribed torsion of the ovary to unusual length of the pedicle, as in the case herein reported. However, in the case reported by Baron, in which torsion of first one and then the other ovary occurred, the second ovary was noted to have a normal looking pedicle at the time of the first operation. Torsion may be repeated, causing intermittent or recurrent attacks as in the case reported by Hinshaw and Kugel.[4] Torsion causes circulatory stasis, venous occlusion at first, then interruption of arterial flow as torsion progresses. Hemorrhagic infarction finally results.

In ovarian torsion, the right ovary twists clockwise and the left ovary counterclockwise, as viewed with the pedicle pointing away from the observer (Küstner's Law).

It is never possible to state with complete assurance that the adnexae were normal before twisting occurred, because the extensive hemorrhage, necrosis and infarction which follow the twisting would obliterate evidence of any mild inflammation that might be present. Downer and Brines,[3] in reporting upon 19 cases, included only those in which the patient was less than 16 years of age, expressing the thought that under that age venereal disease probably would not be a considerable factor. This limit is doubtless too high, and setting the age limit at 13 years would have reduced the number of cases from 19 to 12—nine in which there was torsion of ovary and tube, two of the ovary only and one of the oviduct only.

Immediate laparotomy with resection of the involved ovary and tube was the method of treatment in other cases reported. In the present case, however, this was deemed unnecessary after a return of circulation was observed when the pedicle was untwisted. It might be well in other cases, therefore, to wait to see if arterial circulation will return, lest the ovary be removed unnecessarily. Since the earlier part of the process is intense venous engorgement, some damage to the ovary may result but if arterial supply is not blocked by thrombosis, a functioning ovary may be preserved. It would seem that in very young girls, ovarian tissue should always be preserved on both sides if feasible, for there is always the possibility that the function of the remaining ovary could be lost later through some disease process.

SUMMARY

Torsion and infarction of the normal ovary and tube is a rare cause of acute abdominal symptoms in children.

The clinical symptoms and signs, if the right uterine adnexa is involved, resemble those of acute appendicitis. Bowel obstruction or ureteral colic may be simulated. Torsion is more common on the right side than on the left. Since left-sided torsion produces a confusing clinical picture not likely to be mistaken for appendicitis, surgical interference is more like to be delayed.

A case of right-sided torsion with early venous infarction is reported. In this case, unlike others previously reported, the ovary and tube were preserved when arterial circulation was observed to be reestablished soon after the pedicle was untwisted. It is suggested that before oophorectomy is done in cases of ovarian torsion untwisting should be done to permit evaluation of arterial sufficiency. Unless irrevocable arterial block has occurred, an otherwise normally functioning ovary may be preserved.

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Endocarditis Following Ventricular Septal Defect Repair

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THE INCIDENCE of endocarditis following operations for repair of congenital or acquired cardiac lesions has been stated to be one per cent.[6] Reports of 30 such cases were found in a review of the literature,[1-6,9-11] although in three of the cases proof of endocarditis was lacking. Herewith is the first reported occurrence of endocarditis following repair of a ventricular septal defect. It is the only known case of endocarditis following approximately 1,200 cardiac operations performed in four hospitals in Denver.

REPORT OF A CASE

A 9-year-old boy was admitted to the National Jewish Hospital in Denver on January 10, 1956, for correction of a ventricular septal defect. He had been in good health until, two years before admission, a febrile illness associated with aching in the joints developed. A cardiac murmur was heard at the time. Several weeks after recovery, the patient noted that he was tired and short of breath oftener than before and could no longer keep pace with his playmates. Questioning brought denial of cough, epistaxis, chest pain, hemoptysis, wheezing, paroxysmal nocturnal dyspnea, ankle edema and cyanosis. The patient was not subject to frequent respiratory infections or sore throats. There was no familial history of congenital cardiac defects.

On physical examination, the patient was observed to be thin and well developed and in no acute distress. The blood pressure was 110/60 mm. of mercury and the pulse rate was 100 per minute. Except for those referable to the cardiovascular system, no abnormalities were noted. There was no clinical evidence of increased venous pressure. The left side of the chest was more prominent than the right and showed active cardiac pulsations. Upon palpation of the precordial region a right parasternal heave and a left ventricular apical thrust were noted. The heart was enlarged to percussion. A systolic thrill was felt over the precordial area, being loudest at the third left interspace near the sternum. The murmur was louder in the fourth than in the first intercostal space. The pulmonic second sound was duplicated and accentuated. The femoral pulsations were felt and there was no edema or cyanosis or clubbing of the extremities.

Results of examination of the blood and the urine were within normal limits. Blood cultures were negative for pathogenic organisms. An electrocardiogram showed evidence of left ventricular hypertrophy, which was confirmed by roentgenographic and fluoroscopic examination. Fluoroscopic examination showed enlargement of the main and branch pulmonary arteries and increased vascularity of the pulmonary parenchyma. Cardiac catheterization was carried out and the results were consistent with the diagnosis of a ventricular septal defect. Blood oxygen saturation was increased three volumes per cent as the catheter passed from the right atrium to the right ventricle. This increase was maintained in the main pulmonary artery. The pressure in the right ventricle was 74/0 mm. of mercury and in the pulmonary artery 72/20 mm. of mercury.

On January 20, by means of hypothermia and coronary artery perfusion, a large ventricular septal defect was repaired under direct vision. The immediate postoperative course was satisfactory, and the patient was ambulatory by the fifth postoperative day. The systolic murmur present before operation was no longer audible. However, on the tenth postoperative day a diastolic murmur, characteristic of that occurring in aortic insufficiency, was heard along the left sternal border. Comparison of a chest roentgenogram with previous films showed a slight increase in the transverse diameter of the heart. Although the patient appeared clinically well, fever that varied between 99° and 100°F. daily developed.

Following the operation, the patient was given 600,000 units of procaine penicillin and 1.0 gram of tetracycline daily. The low grade fever persisted, and on the 24th postoperative day the temperature suddenly rose to a range between 101° and 103°F. This was associated with shaking chills and sweats. Blood cultures grew coagulase-positive staphylococcus aureus sensitive to penicillin, erythromycin and chloramphenicol. Although the antimicrobial therapy was changed to 4,000,000 units of penicillin and 1.0 gram of erythromycin daily, fever persisted. Symptoms and signs of congestive heart failure developed on the thirty-third postoperative day. The patient was treated with digitalis, mercurial diuretics, oxygen, increasing doses of penicillin up to 20,000,000 units daily and chloramphenicol. The blood cultures were negative for organisms after the thirty-seventh postoperative day, but the congestive failure progressed. Dyspnea increased and the patient died on the fifty-sixth postoperative day.

Pathologist's report: At necropsy, passive congestion of all organs, most severe in the liver and lungs, was noted. The subcutaneous tissues were edematous. A loculated right hydrothorax was present. The pericardium and epicardium were thickened and the intervening space was largely obliterated by fibrous adhesions. The heart weighed 385 grams. The right ventricular wall was 8.0 mm. thick; the left ventricle was moderately hyper-

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trophied. The mitral and tricuspid valves were normal. A completely closed intraventricular septal defect was located high in the membranous portion of the septum. The line of closure of this defect was covered with granulation tissue. Microscopically, this granulation tissue contained Gram-positive cocci. Sinus tracts were found between the sinuses of Valsalva and the main pulmonary artery. The pulmonary artery was dilated and was larger in circumference than the ascending aorta. The pulmonic and aortic valves were normal. The final diagnoses were: Ventricular septal defect surgically repaired; bacterial endocarditis with fistulous tracts secondary to coagulase-positive staphylococcus aureus infection and congestive heart failure, severe.

DISCUSSION

Endocarditis is an uncommon although serious infection after cardiac operations. Koiwai and Nahas[6] reported 12 such cases in a total of 1,190 cardiac operations. Denton and co-workers,[4] in an extension of this series, found 20 instances in a total of 2,263 cardiac operations, an incidence of 1 per cent. We observed only one instance of postoperative endocarditis in approximately 1,200 cardiac operations. Since the majority of cases of endocarditis occurring after cardiac operations are recognized and reported, the incidence of this complication probably lies between 0.1 and 1.0 per cent.

Koiwai and Nahas[7] discussed three possibilities with regard to the bacteremia: The presence of bacteremia before operation, the introduction of the organism at the time of operation and the occurrence of bacteremia following but unrelated to the operation. That the organism is introduced during operation in a majority of cases seems probable in light of the high proportion of cases in which the infecting organism was a staphylococcus resistant to penicillin and other anti-microbial agents. Only two of the reported cases associated with cardiac operation were caused by the streptococcus viridans, the organism that is responsible for 75 to 85 per cent of all cases of endocarditis in general.

Of great importance in endocarditis following cardiac operations is early recognition, followed by intensive treatment. In the present case, as well as in many of the others reported in the literature, the usual symptoms and signs of endocarditis were either absent or masked. The endocarditis may be confused with the postcommissurotomy syndrome, which is also characterized by temperature elevation, by an increase in the erythrocytes and sedimentation rate and by leukocytosis. The diagnosis of the postcommissurotomy syndrome was not seriously considered in any of the reported cases. Larson,[7] in a report on 51 cases of postcommissurotomy syndrome, described one patient who presented a "classical picture of endocarditis." The diagnosis of endocarditis can usually be substantiated by taking frequent blood cultures whenever an unexplained fever occurs in the postoperative period. Early intensive treatment is important because of the high incidence of complications and the high death rate of staphylococcal endocarditis.

The general plan of treatment for staphylococcic endocarditis suggested by Melton and Logue[8] is recommended. As soon as the diagnosis is suspected, 50,000,000 units of penicillin should be given daily by constant intravenous infusion. One to two grams of streptomycin and 2.0 grams of probenecid are given daily. If there is no clinical response by the third day, the dose of penicillin is increased to 100,000,000 units and given for four additional days. As soon as the organism is identified and sensitivity studies reported, other antimicrobial drugs may be employed. Even after clinical improvement begins and blood cultures are negative for the pathogenic organism, treatment is continued with decreased doses of penicillin. The treatment period is usually five to six weeks.

SUMMARY

A case of staphylococcal endocarditis occurring following repair of a ventricular septal defect is presented. This is the thirty-first instance of endocarditis reported complicating cardiac operations, and it is the second instance in which it followed repair of a congenital cardiac lesion. The incidence, source, diagnosis and treatment of this form of endocarditis are briefly discussed.

University of California Service, San Francisco Hospital, San Francisco 10 (Mandel).

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California MEDICAL ASSOCIATION

NOTICES & REPORTS

Council Meeting Minutes

429th Meeting

Tentative Draft: Minutes of the 429th Meeting of the Council, San Francisco, St. Francis Hotel, December 14, 1957.

The meeting was called to order by Chairman Lum in the Georgian Room of the St. Francis Hotel, San Francisco, on Saturday, December 14, 1957, at 9:30 a.m.

Roll Call:

Present were President MacDonald, President-Elect West, Speaker Doyle, Vice-Speaker O'Neill, Secretary Daniels, Editor Wilbur and Councilors MacLaggan, Wheeler, Foster, Wadsworth, Harrington, McPharlin, Sherman, Lum, Bostick, Teall, Kirchner, Reynolds, Varden, Heron, Hoyt and Rosenow. Absent for cause, Councilor Pearman.

A quorum present and acting.

Present by invitation were Messrs. Hunton, Clancy, Thomas and Gillette of C.M.A. staff; Messrs. Hassard and Huber of legal counsel; county society executive secretaries Scheuber of Alameda-Contra Costa, Jensen of Fresno, Marvin of Riverside, Foster of Sacramento, Donmyer of San Bernardino, Nute of San Diego, Neick of San Francisco, Thompson and assistant Pearce of San Joaquin, Wood of San Mateo, Donovan of Santa Clara and DeVere of Stanislaus; Fred O. Field, Los Angeles legal counsel, and Doctors Carl Hadley, Justin J. Stein, Walter E. Batchelder, Matthew N. Hosmer, Jay Ward Smith and Donald M. Campbell.

A special guest during a portion of the meeting was Hon. William F. Knowland, U. S. Senator from California, accompanied by Mr. Arthur F. Strehlow.

1. *Minutes for Approval:*

On motion duly made and seconded, minutes of the 428th Council meeting, held November 10, 1957, were approved.

2. *Membership:*

(a) On motion duly made and seconded, seven delinquent members whose dues had been received since November 10, 1957, were voted reinstatement as active members.

(b) On motion duly made and seconded in each instance, six applicants were voted Retired Membership. These were: Walter L. Bach, Harry C. Fortner, R. D. McBurney, Samuel Rosen, Los Angeles County; F. E. Toomey, San Diego County; D. L. Robertson, Stanislaus County.

(c) On motion duly made and seconded in each instance, six applicants were voted Associate Membership. These were: Don Harper Mills, Los Angeles County; Marilyn F. Hicks, Marin County; G. H. Reifenstein, San Francisco County; Murdo Nicolson, Solano County; Chester Marsh, Sonoma County; Donald A. Ballard, Ventura County.

(d) On motion duly made and seconded in each instance, seven members were voted a reduction of dues because of illness or postgraduate study.

3. *C.M.A. Structural Survey:*

Messrs. Hamilton Wright and William Thompson of Robert Heller & Associates, Cleveland, presented to the Council their report and recommendations following a study of the structure, functions and operations of the Association. Discussion was held

FRANK A. MacDONALD, M.D.	President
FRANCIS E. WEST, M.D.	President-Elect
JAMES C. DOYLE, M.D.	Speaker
J. NORMAN O'NEILL, M.D.	Vice-Speaker
DONALD D. LUM, M.D.	Council Chairman
ALBERT C. DANIELS, M.D.	Secretary-Treasurer
IVAN C. HERON, M.D.	Chairman, Executive Committee
DWIGHT L. WILBUR, M.D.	Editor
JOHN HUNTON	Executive Secretary

General Office, 450 Sutter Street, San Francisco 8

ED CLANCY	Director of Public Relations

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on several recommendations but no positive action taken.

On motion duly made and seconded, it was voted to appoint a special committee consisting of the President, President-Elect, Council chairman and three district councilors to review the report and make recommendations to the next Council meeting on its implementation.

4. *Public Welfare Medical Care:*

Councilor Harrington, chairman of the Council's liaison committee with the State Department of Social Welfare, suggested that members of the House of Delegates be sent several pieces of informational material relative to the public welfare medical care program and that the Council plan to introduce resolutions into the 1958 House of Delegates in connection with this program. On motion duly made and seconded, it was voted to defer action on these proposals until the next Council meeting and that informational material to be chosen by the Executive Committee be assembled for mailing to members of the House of Delegates.

On motion duly made and seconded, the Council voted confidence in the liaison committee, including the chairman and Doctors Samuel R. Sherman, William F. Quinn and John M. Rumsey.

5. *State Bar of California:*

Doctor West, chairman of the committee to cooperate with the State Bar of California, reported that the joint committees of the two organizations had agreed to organize the metropolitan areas initially in the program to provide panels of experts for plaintiffs' attorneys in medical malpractice action. He also reported that an article would be prepared for publication in both medical and law journals to outline the background of this program and report on its progress to date.

6. *Medical Review and Advisory Board:*

Doctor Carl M. Hadley, chairman of the Medical Review and Advisory Board, reported that the jury and hospital studies were progressing and that reports would be available about next June 30. He also reported on the progress of statistical studies and gave a progress report on personnel, finances and other items in the program of the board. It was agreed that Doctor Hadley would bring to a later Council meeting a functional study of the Medical Review and Advisory Board.

7. *Legislative News Service:*

On motion duly made and seconded it was voted to continue subscribing to a Washington legislative news service for those Council members who wished to receive it and to provide the service at cost to those county societies that wanted copies.

8. *Time and Place of Next Meeting:*

It was agreed that the next meeting of the Council would be held in Los Angeles on January 11 and 12, 1958.

Adjournment:

There being no further business to come before it, the meeting was adjourned at 5:15 p.m.

Donald D. Lum, M.D., *Chairman*
Albert C. Daniels, M.D., *Secretary*

* * *

430th Meeting

Tentative Draft: Minutes of the 430th Meeting of the Council, Los Angeles, Ambassador Hotel, January 11 and 12, 1958.

The meeting was called to order by Chairman Lum in the Colonial Room of the Ambassador Hotel, Los Angeles, on Saturday, January 11, 1958, at 9:30 a.m.

Roll Call:

Present were President MacDonald, President-Elect West, Speaker Doyle, Vice-Speaker O'Neill, Secretary Daniels, Editor Wilbur and Councilors MacLaggan, Wheeler, Foster, Wadsworth, Pearman, Harrington, McPharlin, Sherman, Lum, Bostick, Teall, Kirchner, Varden, Heron, Hoyt and Rosenow. Absent for cause, Councilor Reynolds.

Present by invitation were Messrs. Hunton, Thomas, Clancy, Gillette and Mrs. Griffith of C.M.A. staff; legal counsel Hassard and Huber; county executive secretaries Scheuber of Alameda-Contra Costa, Jensen of Fresno, Geisert of Kern, Bannister of Orange, Marvin of Riverside, Foster of Sacramento, Donmyer of San Bernardino, Nute of San Diego, Neick of San Francisco, Thompson of San Joaquin, Wood of San Mateo and Donovan of Santa Clara; Fred O. Field, legal counsel of the Los Angeles County Medical Association; Ben H. Read of the Public Health League of California; Doctors A. E. Larsen and William Gardenier and Messrs. Etchel Paolini, Richard Lyon and Wilson Wahlberg of California Physicians' Service, and Doctors John Blum, Justin J. Stein, Walter Batchelder and Carl Hadley.

A quorum present and acting.

1. *Minutes for Approval:*

On motion duly made and seconded, minutes of the 429th meeting of the Council, held December 14, 1957, were approved.

2. *Membership:*

(a) A report of membership as of January 8, 1958, was received and ordered filed.

(b) On motion duly made and seconded in each instance, six members were voted Retired Membership. These were: John P. Adams, Paul E. Dolan, Alameda-Contra Costa County; Merl L. Pindell, John C. Webster, Los Angeles County; Max Dunievitz, Placer-Nevada-Sierra County, and C. A. MacDonald, San Bernardino County.

(c) On motion duly made and seconded in each instance, seven applicants were voted Associate Membership. These were: L. V. Foye, Jr., Alameda-Contra Costa County; Samuel Becker, Shelby L. Dietrich, Harry C. Fang, Ernest M. Heimlich, Worth A. Hooper, Stanley N. Rokaw, Los Angeles County.

(d) On motion duly made and seconded, reductions of dues were voted for four members.

3. *Financial:*

(a) A report of bank balances as of January 8, 1958, was received and ordered filed.

(b) A report of income and expenditures for December and the six months ended December 31, 1957, was received and ordered filed.

4. *Committee on Scientific Work:*

On motion duly made and seconded, it was voted to authorize the Committee on Scientific Work to select five guest speakers for each annual session, with the advice of the President and the officers of appropriate scientific sections.

5. *California Physicians' Service:*

Councilor Wadsworth, reporting as a Trustee of California Physicians' Service, reported that studies were under way toward the possibility of converting C.P.S. fee schedules into new schedules based on the Relative Value Studies. He also reported that a new fee schedule was under consideration, which would be based on the Relative Value Studies at a $5 unit factor, to be used on contracts which might be publicly offered.

Doctor Wadsworth also reported that Messrs. Anthon Robertson and K. L. Hamman had terminated their services with C.P.S.

6. *Legal Department:*

Mr. Hassard reported that the State Supreme Court had upheld the decision of the Appellate Court in reversing a lower court finding against a physician in a malpractice case involving points of law of great importance to all physicians.

7. *Committee on Legislation:*

Mr. Hassard reported that a legislative interim committee was discussing the advisability of introducing legislation to provide health and welfare benefits for all state employees.

He also reported that hearings had been held by another interim committee on cancer control legislation. On motion duly made and seconded, it was voted to approve a meeting between the executive and legislative committees of the Association with the directors of the American Cancer Society, California Division, for exploratory purposes on cancer, report to be made to the Council.

Mr. Hassard also reported that another interim committee was considering a proposal to create a State Department of Health with two divisions, one for public health and one for administrative purposes. It was agreed that the Committee on State Medical Services should consider the advisability of the Association's continuing its support of such proposed legislation.

Mr. Ben H. Read, executive secretary of the Public Health League of California, reported that an investigation of the public welfare assistance law would be made by a Legislative Interim Committee. Further discussion was held later.

Mr. Read also reported that one section of the Public Health League of California had urged the reactivation of the United Public Health League for discussions on pending federal legislation. It was agreed that the opinions of the directors of the United Public Health League should be sought on this subject.

On motion duly made and seconded, it was voted that the district councilors should arrange meetings of the delegates in their respective districts for discussions on federal legislation.

7. *Public Welfare Assistance Law:*

Councilor Harrington, chairman of the liaison committee with the State Department of Welfare, discussed the status of the Public Welfare Assistance Law and reviewed resolutions and communications from several county medical societies. It was agreed that all resolutions and statements should be referred to Doctor Harrington's committee and added consultants.

The report of this committee recommended acknowledging receipt of communications from county medical societies in Los Angeles and San Francisco counties, with the statement that the recommendations of these societies were under favorable consideration. On motion duly made and seconded, this was approved.

On motion duly made and seconded, it was voted to send a letter to the entire membership, advising members of the activities of the Association in dealing with this law.

On motion duly made and seconded, it was voted that all mailings to the membership should be on Association stationery and where appropriate should bear the joint signatures of the C.M.A. President and the State Director of Social Welfare.

On motion duly made and seconded, it was voted that legal counsel and consultants should study means of making payments uniform throughout the state under the public welfare assistance law.

8. *Commission on Medical Service:*

Doctor John M. Rumsey, chairman of the Committee on Government-Financed Medical Care Programs, presented a draft of the proposed contract for 1958 under the Medicare Program, negotiations on which will be undertaken in February with the Department of the Army. On motion duly made and seconded, the proposed contract with certain amendments was accepted and the committee authorized to use it, as amended, as a basis for negotiations.

On motion duly made and seconded, it was voted to appoint Doctor Horace Sharrocks of Sonoma County as a member of this committee. The committee is to be split up into three sections, each of which will hereafter concentrate on individual problems in the jurisdiction of the entire committee.

9. *State Department of Public Health:*

Doctor Malcolm H. Merrill, State Director of Public Health, reported that the level of influenza is now at about normal for this time of the year. He also reported that only about two-thirds of Californians under age 40 had received injections of polio vaccine and only about half that number had had more than one injection. In the absence of any further public programs, he stated, the balance of this program must be carried out by private physicians. The incidence of polio in 1957 is the lightest in 20 years, he stated.

Doctor Merrill also reported that revised regulations had now been adopted by the State Board of Health to cover the requirements of the new rabies control law adopted by the 1957 Legislature.

10. *Association Mailing List:*

A request for use of the Association's mailing list was considered and, on motion duly made and seconded, it was voted to deny this and future requests.

10. *Committee on Blood Banks:*

A statement prepared by the Committee on Blood Banks, covering the standards which should apply for any blood bank to secure the sponsorship of the Association, was presented by Doctor Rosenow, chairman of the Commission on Medical Education. On motion duly made and seconded, it was voted to approve this statement of standards and to commend the Committee on Blood Banks for its prompt and effective handling of this subject. This statement of standards reads as follows:

STANDARDS FOR BLOOD BANK SPONSORSHIP BY THE CALIFORNIA MEDICAL ASSOCIATION

1. Blood banks will operate on a nonprofit principle. A copy of the letter of exemption from the United States Bureau of Internal Revenue and the State Franchise Tax Board will be submitted. A letter will be submitted annually by the blood bank president or other responsible officer stating that the blood bank is complying with its nonprofit status. A letter will be submitted annually from the blood bank auditor stating that blood bank funds are not being used for purposes other than that for which the blood bank was formed and that during the past year there have been no substantive changes in the articles of incorporation or the by-laws of the blood bank, except as follows:

2. Blood banks will perform an acceptable community service. Adequate amounts of all types of blood will be supplied to all qualified medical facilities requesting service in the geographic area covered by the individual blood bank at minimum cost to the patient. The method by which this is accomplished is the responsibility of the individual blood bank as long as the basic effort for blood procurement follows the replacement principle.

3. Blood banks will fulfill basic technical standards as outlined by the National Institute of Health and/or the California State Department of Public Health.

4. Each blood bank will be sponsored by the county medical society where it is located. Evidence of such sponsorship, will be submitted annually to the C.M.A.

5. The above information will be secured by the C.M.A. Committee on Blood Banks and will be submitted annually to the Council of the C.M.A.

11. *Committee on Postgraduate Activities:*

Doctor Edward C. Rosenow, Jr., chairman of the Committee on Postgraduate Activities, recommended that the committee budget be set to include payments of $500 each, annually, to the participating medical schools as partial reimbursement to them for their overhead expenses in working with the committee. On motion duly made and seconded, this recommendation was approved.

On motion duly made and seconded, it was voted to approve a policy of making postgraduate institutes as nearly self-supporting as possible.

On motion duly made and seconded, it was voted to approve the transfer of the motion picture program at annual sessions from the Committee on Scientific Work to the Committee on Postgraduate Activities.

12. *Committee on Committee Nominations:*

The Chairman, the Council approving, named Councilor Bostick as chairman of the committee to make recommendations for all commission and committee appointments, the other members of his committee to be the chairman of all commissions.

13. *C.M.A. Structural Survey:*

A special committee appointed to review the studies and recommendations made by Robert Heller & Associates on the structure and functions of the Association presented its report through Councilor Sherman, chairman. Other committee members were Doctors MacDonald, West, Lum, Wheeler and Foster.

On motion duly made and seconded, the Council approved the following recommendations:

1. That the Council and administrative office seek to strengthen their liaison with the Woman's Auxiliary and the California Medical Assistants' Association and to work with them in program planning.

2. That the Speaker of the House consider the advisability of distributing the work load of House reference committees equitably, within the terms of existing By-Law provisions, especially that of Reference Committee No. 3, covering new business.

3. That By-Law amendments be prepared to require that resolutions to be presented to the House of Delegates must be submitted at least one month prior to the convening of the House, emergency resolutions to require unanimous approval of the House for later introduction.

4. That district councilors hold at least one meeting each year with the delegates from their Districts, to apprise the delegates about matters of importance before the Council; delegates, in turn, to apprise their district councilors of their thoughts in regard to matters currently under consideration.

5. That the Council make greater use of the headquarters office for studies, analyses, etc., of matters to come before the Council.

6. That one staff member be assigned the sole duty of working with and correlating the activities of all commissions and committees as Director of Commissions and Committees; that the staff member for this appointment at this time be Mr. Robert L. Thomas; and that an additional staff member be employed to take over some of the present duties which Mr. Thomas will necessarily drop in order to undertake his new duties.

It was further agreed that further recommendations of this special committee be taken up at later meetings and that Speaker Doyle be named as an added member of the committee.

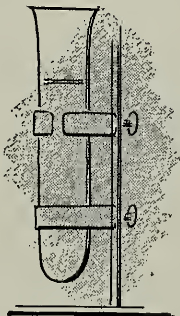
14. *Time and Place of Next Meeting:*

It was agreed that the next meeting of the Council be held on February 8, 1958, in San Francisco.

Adjournment:

There being no further business to come before it, the meeting was adjourned at 5:00 p.m., Sunday, January 12, 1958.

Donald D. Lum, M.D., *Chairman*
Albert C. Daniels, M.D., *Secretary*



In Memoriam

Alexander, Elmo. Died in Fresno, January 20, 1958, aged 64, of heart disease. Graduate of the University of Texas School of Medicine, Galveston, 1923. Licensed in California in 1925. Doctor Alexander was an associate member of the Tulare County Medical Society.

✣

Brady, Edwin Herms. Died in Auburn, January 8, 1958, of coronary occlusion and decompensation, aged 57. Graduate of Creighton University School of Medicine, Omaha, Nebraska, 1941. Licensed in California in 1948. Doctor Brady was a member of the Placer-Nevada-Sierra County Medical Society.

✣

Campbell, George M. Died in Glendale, January 18, 1958, aged 47, of uremia. Graduate of the College of Medical Evangelists, Loma Linda-Los Angeles, 1935. Licensed in California in 1935. Doctor Campbell was a member of the Los Angeles County Medical Association.

✣

Cooper, Alfred John. Died January 12, 1958, aged 58. Graduate of the College of Medical Evangelists, Loma Linda-Los Angeles, 1925. Licensed in California in 1925. Doctor Cooper was a retired member of the San Diego County Medical Society and the California Medical Association, and an associate member of the American Medical Association.

✣

Criley, Clarence H. Died in Manhattan Beach, January 14, 1958, aged 76. Graduate of the University of Pennsylvania School of Medicine, Philadelphia, 1907. Licensed in California in 1909. Doctor Criley was a member of the Los Angeles County Medical Association.

✣

Dearing, Bradford F. Died in San Francisco, January 5, 1958, aged 67. Graduate of Washington University School of Medicine, St. Louis, Missouri, 1917. Licensed in California in 1920. Doctor Dearing was a member of the San Francisco Medical Society.

Hanson, Samuel. Died in Stockton, January 18, 1958, aged 61. Graduate of the University of California School of Medicine, Berkeley-San Francisco, 1923. Licensed in California in 1923. Doctor Hanson was a member of the San Joaquin County Medical Society.

✣

Le Valley, Thomas Alexander. Died in North Hollywood, January 1, 1958, aged 51. Graduate of the Tulane University School of Medicine, New Orleans, Louisiana, 1936. Licensed in California in 1937. Doctor LeValley was a member of the Los Angeles County Medical Association.

✣

McGowan, Donald Oscar. Died in Carmichael, February 3, 1958, of burns, aged 50. Graduate of the University of Oregon Medical School, Portland, 1934. Licensed in California in 1936. Doctor McGowan was a member of the Sacramento Society for Medical Improvement.

✣

Meadows, Russell, Jr. Died January 29, 1958, aged 37. Graduate of Northwestern University Medical School, Chicago, 1945. Licensed in California in 1950. Doctor Meadows was a member of the Riverside County Medical Association.

✣

Nelson, Harry Charles. Died in Santa Ana, January 9, 1958, of acute coronary thrombosis, aged 72. Graduate of the College of Medical Evangelists, Loma Linda-Los Angeles, 1908. Licensed in California in 1930. Doctor Nelson was a member of the Orange County Medical Association.

✣

Stilson, George D. Died January 22, 1958, aged 72. Graduate of Cornell University Medical College, New York, N. Y. Licensed in California in 1923. Doctor Stilson was a retired member of the Los Angeles County Medical Association and the California Medical Association and an associate member of the American Medical Association.

Social Security Footnotes

LONG TERM RESULTS of the trend toward Big Pensions and its sponsor Big Government are to be feared. Rewards by government for long life to all the people begins a leveling or averaging process that destroys individuality and initiative. It encourages the welfare state by placing responsibility for a great portion of our people solely in the hands of government.

—*From the Department of Public Relations, American Medical Association*

REGIONAL POSTGRADUATE INSTITUTE

NORTH COAST COUNTIES

DESCRIPTION OF PROGRAM: In addition to the didactic lectures there will be workshops and question and answer periods in which the physicians will have the opportunity of working in small groups. Workshops in ECG and x-ray interpretation and electrolyte balance will be organized in groups of 10 physicians who will study actual tracings, films and case histories. Small group sessions in which the physicians may submit individual questions in orthopedics and radioisotopes will also be given. Small group sections and workshops will be filled on a first-come—first-served basis. Sign-up sheets for all sections will be available at the Registration Desk. Every effort will be made, however, to schedule additional sections if needed.

Hoberg's Resort, Lake County... April 10–12

PROGRAM

THURSDAY, APRIL 10, 1958

11:00-12:00 and 1:00-1:50 p.m.—Registration

1:50-2:00 p.m.—**Opening Remarks and Introduction**—Alfred A. Thurlow, Jr., M.D.

2:00-2:30 p.m.—**Management of Myocardial Infarction**—George C. Griffith, M.D.

2:30-2:55 p.m.—**Arrhythmias**—Oscar Magidson, M.D., and George C. Griffith, M.D.

3:10-4:00 p.m.—**Panel on Jaundice**

4:00-4:30 p.m.—**Diabetes Mellitus**—Helen E. Martin, M.D.

4:30-5:00 p.m.—**Isotopes**—Franz K. Bauer, M.D.

ELECTIVES: (You may go to one of your choice)

3:10-5:00 p.m.—**Three Sections on Electrocardiography** (limited to 10 students each section)

One Section on Orthopedics (limited to 15)

6:00-7:00 p.m.—Cocktail Hour—Compliments of Hoberg's Resort.

7:00 p.m.—Institute Banquet

FRIDAY, APRIL 11, 1958

9:00-9:55 a.m.—**Surgery in Peripheral Vascular Disease**

9:55-10:50 a.m.—**Newer Diagnostic Tools**—Clyde B. McAuley, M.D.

11:05-11:35 a.m.—**Toxemia of Pregnancy**—Charles F. Langmade, M.D.

11:35-12:05 a.m.—**Office Gynecology**—George A. Macer, M.D.

ELECTIVES: (You may go to one of your choice)

10:00-12:00 a.m.—**Three Sections on Electrocardiography** (limited to 10 each)

12:00-2:00 p.m.—Luncheon

2:00-2:30 p.m.—**Pitfalls in Orthopedics**—Lorin L. Stephens, M.D.

2:30-3:00 p.m.—**Management of Hypertension**—Leonard H. Schwartz, M.D.

3:15-4:30 p.m.—**Panel on Chest Cases**

ELECTIVES: (You may go to one of your choice)

3:15-5:00 p.m.—**Cardiovascular Questions and Answers** (limited to 10)

X-ray Workshop (limited to 10)

Two Sections on Electrolytes (limited to 10)

Cardiac Resuscitation (limited to 15)
Practical experience in Cardiac Resuscitation utilizing dogs

SATURDAY, APRIL 12, 1958

9:00-9:55 a.m.—**Discussion of Medical Case**—Ralph E. Homann, Jr., M.D.

9:55-10:50 a.m.—**Obstetrics and Gynecology**

11:05-12:00 a.m.—**Discussion of Cardiac Cases**—George C. Griffith, M.D.

ELECTIVES: (You may go to one of your choice)

9:00-11:00 a.m.—**Questions and Answers, Isotopes** (limited to 10)

X-ray Workshop (limited to 10)

Cardiac Resuscitation (limited to 15)

OTHER SPECIAL EVENTS:

(1) Continuous Movies

(2) Scientific Exhibits.

HOST: Sonoma County Medical Society . . . **REGIONAL CHAIRMAN:** Alfred A. Thurlow, Jr., M.D., 185 Sotoyome Avenue, Santa Rosa. **Institute Fee:** $20.00. If you have registered for a previous Institute during the 1958 season, fee is $10.00. For additional information, contact Postgraduate Activities office, California Medical Association, 2975 Wilshire Blvd., Los Angeles 5. **All California Medical Association members and their families are cordially invited to attend. Hotel Information:** Special rate of $14.00 (includes 3 meals a day) has been given by Hoberg's Resort. Please make reservations directly with the hotel.

WOMAN'S AUXILIARY
TO THE CALIFORNIA MEDICAL ASSOCIATION

President's Message

The wind and rain of winter are now well behind us, and we can look forward to spring and to our annual meeting. It is difficult for me to realize that ten months have elapsed since so many of us last met. What have I done during this time?

To date, I have visited twenty auxiliaries, I've attended the annual convention of the Woman's Auxiliary to the American Medical Association, and I attended the Fall Conference for State Presidents and Presidents-Elect in Chicago. I have covered a good many thousands of miles, I have met several thousands of people; and all are working toward a better tomorrow, by serving American Medicine today.

To assist the California Medical Association in its program for the advancement of medicine and public health is one of our objectives. We are in receipt of a request from the C.M.A. for our help in opposing the Forand Bill which was introduced in August, 1957. As I visit the counties I am agreeably surprised to find the interest that has been provoked by this bill. In a recent visit postal cards were given to all of the members, and before we left all of us had written to our senators and congressmen on why we were opposed to the Forand Bill (H. R. 9467). As a practicing physician, have you written?

To cultivate friendly relations and promote mutual understanding among physicians' families is another of our objectives. This hasn't always been easy. For many years we had a definite "north" and "south." Today this has almost disappeared and we have joined forces in friendship and understanding to participate in any endeavor that will further the cause of American Medicine.

To have the opportunity to visit thirty-four component auxiliaries is a rare and wonderful experience—to visit the large metropolitan city and then the rural areas, and still find physicians' wives acting as the liaison between the profession and the general public. It is the actions of the physician's wife, her community activities, her voluntary services that form the public's opinion of her husband.

Although we are not a fund-raising organization, nevertheless we raise and give away, to some very worthwhile causes, about $50,000 a year. One recipient is our scholarship plan for nurses. Also, some of our auxiliaries maintain a loan fund for needy medical students. Each year we contribute a sizable sum to American Medical Education Foundation and to our own California Physicians' Benevolence.

We are a working community service organization, and health is our concern. If you have ever taken the time to glance over the rosters of the health agencies in your community, you will find many physicians' wives listed; and this is wonderful public relations for the medical profession.

Last summer, as I planned my year ahead, I was concerned with, "What will my message be as I tour about?" I can't begin to tell you how many people I asked; and, as with much in life, I had to solve this myself. It all became very simple one day. I had a request from Ventura County. The president asked, "When you visit our Auxiliary, would it fit your plans to include in your talk an explanation of the aims and functions of the American Medical Association?"

Further, to quote Mrs. James Moore, "Your theme is to 'inform your membership' and that same theme is one of our own county's primary objectives this year. And, of course, you have said your intention is to please the counties." This was my answer, and every month I write ahead and ask the county president if she has a topic she would like me to discuss. This has indeed been a valuable experience for me and, I hope, for the different county memberships.

I'm only sorry that many members cannot experience this opportunity to visit and know the extent of the work as done by thirty-four auxiliaries in California; together we serve the nation's largest Auxiliary.

Mrs. Leonard D. Offield
President, Woman's Auxiliary to the
California Medical Association

NEWS & NOTES

NATIONAL · STATE · COUNTY

ALAMEDA

The seventh annual **Clifford D. Sweet Seminar**, sponsored by Children's Hospital of the East Bay, will be held May 16 and 17 at the Claremont Hotel in Berkeley.

The guest speakers will be Dr. James G. Hughes, professor of pediatrics and chairman of the Department of Pediatrics, University of Tennessee Medical School, and Dr. Paul H. Holinger, professor of broncho-esophagology, University of Illinois and Children's Memorial Hospital.

LOS ANGELES

Dr. Ross Golden, visiting professor of radiology at the University of California at Los Angeles School of Medicine, was presented with the American College of Radiology's gold medal at the recent annual meeting of the college in Chicago. Dr. Golden became the nineteenth recipient of the gold medal, which is given for outstanding service in radiology, in the almost 40-year history of the college. Dr. Lowell Goin of Los Angeles, a former winner of the honor, took part in the presentation ceremonies.

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The annual meeting of the **California Academy of Preventive Medicine** will be held at 6:00 p.m., Wednesday, April 30, 1958, in the Regency Room of the Ambassador Hotel, following the Public Health Section meeting.

There will be a social hour, dinner, a nationally known speaker for the scientific section, and a short business session, the academy announced. Members of the American College of Preventive Medicine and Diplomates of the American Board of Preventive Medicine are invited to participate. Physicians planning to attend may write to L. S. Goerke, M.D., University of California at Los Angeles Medical Center, Los Angeles 24.

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The American College of Chest Physicians, California Chapter, will hold a scientific meeting, Saturday, April 26, from 9:00 a.m. to 5:00 p.m. in the Embassy Room, Ambassador Hotel, Los Angeles. A luncheon and business meeting will be held at 12:30 in the Embassy Room.

SAN FRANCISCO

The annual **Memorial Staff Day of St. Mary's Hospital** will be held this year on Wednesday, April 16, 1958, from 9 a.m. to 4 p.m. in the hospital auditorium. Occlusive Vascular Disease will be the main topic of the meeting, with Dr. Denton Cooley of Baylor Medical School, Houston, presenting the surgical aspects, the medical views being given by his guest confreres. Dr. Cooley also will participate with his confreres in a clinical-pathological conference with St. Mary's staff members and their guests. Original papers by staff members will complete the agenda. The day will be terminated by a dinner in the Gold Room of the Fairmont Hotel. The meeting is open to all members of the profession. Information may be obtained from Miss Marguerite Hancock at St. Mary's Hospital.

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A symposium to demonstrate **treating cleft lip and palate** by means of group management is scheduled by the Plastic and Reconstructive Surgery Center of Saint Francis Hospital, San Francisco, for April 21 and 22. It will be held in the hospital and is open to all who are interested in corrective methods for deformity of this type.

Guest speakers will be four specialists from the University of Illinois who have outstanding experience in this type of treatment. They are Herbert R. Kobes, M.D., director, Division of Services for Crippled Children, State of Illinois; Herbert Koepp-Baker, Ph.D., director of the Cleft Palate Center; Edward F. Lis, M.D., associate professor of pediatrics, College of Medicine, and director of the Center for Handicapped Children; and Samuel Pruzansky, D.D.S., associate professor of orthodontics, College of Dentistry, and associate director of the Cleft Palate Training Program.

For the past three and a half years, the Plastic and Reconstructive Surgery Center of Saint Francis Memorial Hospital has conducted a monthly conference in which surgeons meet with orthodontists, speech therapists, otorhinolaryngologists and pediatricians to consider the problems of cleft palate patients.

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A teaching exhibit from the University of California Medical Center in San Francisco was awarded the **Clyde L. Cummer Gold Medal** of the American Academy of Dermatology and Syphilology.

The Cummer Medal is awarded annually by the academy for an exhibit of high teaching value. The University of California exhibit used color transparencies, drawings and text to describe the skin disorders and other medical problems of leg amputees. It was shown at the academy's recent Chicago meeting.

The exhibit was prepared by the staff of the Biomechanics Laboratory at the University of California Medical Center under the supervision of Dr. Verne T. Inman, professor of orthopedic surgery, and Dr. Henry E. Loon, medical coordinator of the laboratory. Panels on skin disorders frequently troublesome to amputees were prepared by Dr. S. William Levy, assistant clinical professor of dermatology, and Dr. Gilbert H. Barnes, clinical instructor in dermatology.

GENERAL

Dr. Charles E. Smith of Berkeley and **Dr. Dave F. Dozier** of Sacramento were appointed by Governor Goodwin J. Knight to the State Board of Public Health for new terms ending January 15, 1962.

Dr. Smith, dean of the University of California School of Public Health, was originally appointed to the board in 1940 and is currently serving as president of the board. Dr. Dozier was originally appointed in 1956.

No. 1 Killer—The leading cause of hospitalization in the Air Force is not air crashes but automobile accidents.

POSTGRADUATE
EDUCATION NOTICES

THIS BULLETIN of the dates of postgraduate education programs and the meetings of various medical organizations in California is supplied by the Committee on Postgraduate Activities of the California Medical Association. In order that they may be listed here, please send communications relating to your future medical or surgical programs to: Mrs. Margaret H. Griffith, Director, Postgraduate Activities, California Medical Association, 2975 Wilshire Boulevard, Los Angeles 5.

UNIVERSITY OF CALIFORNIA AT LOS ANGELES

The Clinical Approach to Diseases of the Blood. Wednesday, March 19. Six hours. Fee: $25.00.

Dermatology in General Practice (to be limited to 20), Wednesdays, April 2 to May 7. Twelve hours.†

Medical Technology Workshop: Hematology. Saturday and Sunday, April 12 and 13. Six hours. Fee: $8.00.

Proctology. Wednesday, April 16. Six hours.†

Advances in Behavioral Science of Significance for Rehabilitation. Saturday, April 26. Six and three-quarters hours. Fee: $10.00.

Casts, Splints and Bandages. Wednesday, May 7. Seven hours.†

Collagen Diseases. Friday and Saturday, May 23 and 24. Nine hours. Fee: $30.00.

Emotional Problems in Office Practice (University of California Residential Conference Center, Lake Arrowhead). Thursday through Saturday, June 5 to 7. Twelve hours.†

Seventh Annual Symposium on Medical Technology. Saturday and Sunday, June 14 and 15. Twelve hours. Fee: $20.00.

Techniques of Hypnosis (Limited to 40). Monday through Wednesday, June 16 to 18. Fifteen hours. Fee: $65.00.

Advanced Techniques and Application of Hypnosis (Limited to 25). Wednesday through Friday, June 18 to 20. Fifteen hours. Fee: $110.00.

Techniques of Surgery. Monday through Friday (limited to 14), July 28 to August 1. Thirty-five hours.†

Internal Medicine (at University of California Residential Conference Center, Lake Arrowhead), Wednesday through Saturday, August 20 to 23. Twelve hours.†

Surgical Anatomy (Dissection). Friday and Saturday. Date to be announced. Six hours.†

Obstetrics and Gynecology. Date, hours and fee to be announced.

Surgery of Trauma. Date, hours and fee to be announced.

Contact: Thomas H. Sternberg, M.D., Assistant Dean for Postgraduate Medical Education, U.C.L.A., Los Angeles 24. BRadshaw 2-8911, Ext. 202.

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

Children's Hospital Medical Seminar on Allergies. Saturday, March 29. Seven hours. Fee: $12.50.

Diagnostic Radiology. Saturday through Wednesday, March 29 to April 2. Thirty-five hours. Fee: $75.00.

Ear-Nose-Throat. Friday and Saturday, June 6 and 7. Fourteen hours. Fee: $40.00.

Interpretation of Laboratory Tests. Date, hours and fee to be announced.

Fundamental Principles of Radioactivity and the Diagnostic and Therapeutic Uses of Radioisotopes. Two or three month course limited to one enrollee per month. Per month, $250.00.

Contact: Seymour M. Farber, M.D., Head, Postgraduate Instruction, Office of Medical Extension, University of California Medical Center, San Francisco 22. MOntrose 4-3600, Ext. 665.

STANFORD UNIVERSITY SCHOOL OF MEDICINE

Morning Clinical Conferences, each Monday, Room 515. *Contact:* D. H. Pischel, M.D., Professor, Division of Ophthalmology, Stanford University School of Medicine, 2398 Sacramento St., San Francisco 15.

Postgraduate Conference in the Surgery of Trauma. March 24 to 28.

Postgraduate Conference in Ophthalmology. March 31 to April 4.

UNIVERSITY OF SOUTHERN CALIFORNIA, LOS ANGELES

Cardiac Resuscitation. Sponsored by the Los Angeles County Heart Association each Wednesday throughout the year, 4 to 6 p.m. Residents admitted without fee. Tuition for all other physicians: $30.00. (Each session all-inclusive.)

Basic Home Course in Electrocardiography. One year Postgraduate Series, electrocardiogram interpretation by mail. Physicians may register at any time and receive all 52 issues. Fifty-two weeks. Fee: $100.00.

Advance Home Course in Electrocardiography. One year postgraduate series, electrocardiogram interpretation by mail. Fifty-two issues: $85.00. Physicians may register at any time.

Edematous States. Emphasis placed on understanding of the basic principles involved in edema formation and their relationship to clinical problems. March 28 and 29, Hotel Statler, Los Angeles. Tuition: $56.00.

Problems of Malpractice. Lectures will be presented on problems relating to malpractice situation in California, May 17, Hotel Statler, Los Angeles. Tuition: $18.00.

Office Orthopedics. Designed to be of value to the physician in general practice. May 23 to 25, Hotel Statler, Los Angeles, 9 to 5 each day. Fee: $75.00.

Special Announcement: From August 5 to August 21, 1958, the University of Southern California School of Medicine will hold a postgraduate course in Honolulu and on board the *S.S. Matsonia.* The course will center around actual case histories, which will be used to emphasize diagnostic and therapeutic features.

Contact: Phil R. Manning, M.D., Director, Postgraduate Division, University of Southern California School of Medicine, 2025 Zonal Avenue, Los Angeles 33. CApital 5-1511.

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†Fee to be announced.

COLLEGE OF MEDICAL EVANGELISTS

Vue-Vox Postgraduate Refresher Courses. Courses are made up of four or more half-hour lectures each, recorded on hi-fi magnetic tape and illustrated by 35-mm. filmstrips or slides in full color, and adapted for use on any standard tape recorder and filmstrip or slide projector, automatic or manual.

Contact: Paul D. Foster, M.D., chairman, Committee on Audio-Visual Courses, College of Medical Evangelists School of Medicine, 316 North Bailey St., Los Angeles 33.

CALIFORNIA MEDICAL ASSOCIATION POSTGRADUATE COURSES

POSTGRADUATE INSTITUTES—1958

San Joaquin Valley Counties, in cooperation with Stanford University School of Medicine, Hotel Californian, Fresno, March 20 and 21, 1958. Chairman: Henry L. Tiesche, M.D., 1759 Fulton St., Fresno.

North Coast Counties, in cooperation with USC School of Medicine, Hoberg's Resort, Lake County, April 10, 11 and 12, 1958. Chairman: Alfred A. Thurlow, Jr., M.D., 185 Sotoyome Ave., Santa Rosa.

Contact: One of the chairmen listed above, or Mrs. Margaret H. Griffith, Director, Postgraduate Activities, California Medical Association, 2975 Wilshire Blvd., Los Angeles 5. DUnkirk 5-2341.

Postgraduate Courses during California Medical Association Annual Meeting

Abdominal Pain. Program by U.C.L.A. School of Medicine. April 28, 29, 30, 9:00-12:00 a.m. Ambassador Hotel, Los Angeles.

Management of Trauma. Program by College of Medical Evangelists. April 28, 29, 30, 9:00-12:00 a.m. Ambassador Hotel, Los Angeles.

Liver Diseases. Program by U.S.C. School of Medicine. April 27, 2:00-5:00 p.m., Los Angeles County General Hospital, and April 28-29, 9:00-12:00 a.m., Ambassador Hotel, Los Angeles.

Guest Speakers: William A. Altemeier, M.D., University of Cincinnati School of Medicine; Charles S. Davidson, M.D., Harvard Medical School; Mark M. Ravitch, M.D., Johns Hopkins University School of Medicine; Bronson S. Ray, M.D., Cornell University Medical College.

Fee: $25.00 each course

For additional information and complete program write: Postgraduate Activities, California Medical Association, 2975 Wilshire Boulevard, Los Angeles 5.

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Audio Digest Foundation, a nonprofit subsidiary of the C.M.A., now offers (on a subscription basis) a series of hour-long tape recordings designed to keep the physician abreast of current happenings in his particular field. Composed of practice-useful abstracts from 600 leading journals, with short lectures and editorial comments from prominent physicians, Audio Digest offers programs covering general practice, surgery, internal medicine, obstetrics and gynecology, and pediatrics.

Contact: Claron L. Oakley, editor, 1919 Wilshire Blvd., Los Angeles 57.

Medical Dates Bulletin

MARCH MEETINGS

California Society of Plastic Surgeons Annual Meeting, March 20 to 22, Del Monte Lodge, Del Monte, California. *Contact:* Benjamin F. Edwards, M.D., 2200 Santa Monica Blvd., Santa Monica.

American College Health Association Annual Meeting, March 25 to 29, Ambassador Hotel, Los Angeles. *Contact:* Donald McKinnon, M.D., Student Health Service, University of California Medical Center, Los Angeles 24.

Santa Clara and San Mateo County Heart Associations Second Annual Postgraduate Symposium on Heart Disease, March 26. Stanford Campus, Palo Alto, 9 to 5. Fee: $5.00. *Contact:* John Blum, Executive Director, San Mateo County Heart Association, 181 Second Avenue, San Mateo; or Mrs. Ruth West, executive director, Santa Clara County Heart Association, 461 Porter Building, San Jose.

APRIL MEETINGS

San Francisco Heart Association Nurses Institute on the Care of the Cardiac Patient, April 2 and 3. Marina Junior High School, San Francisco, 8:30 a.m. to 4:00 p.m. *Contact:* Miss Jean Sullivan, program director, 259 Geary St., San Francisco.

Cancer Commission, California Medical Association Cancer Conference for Imperial County Medical Society, April 8, Pioneers Memorial Hospital, Brawley.*

California Tuberculosis and Health Association, California Trudeau Society and the California Conference of Tuberculosis Workers Annual Meeting, Villa Hotel, San Mateo, April 10 through 12, 1958. *Contact:* E. L. Daggett, director public information, 130 Hayes Street, San Francisco 2, HEmlock 1-8771.

Valley Children's Hospital Spring Clinics, April 11 and 12. Roosevelt High School Auditorium, Fresno. *Contact:* Valley Children's Hospital, Fresno.

Anesthesia Section, Los Angeles County Medical Association Third Annual Spring Postgraduate Meetings at LACMA headquarters, April 12 and 13. *Contact:* Thomas W. McIntosh, M.D., chairman, 686 E. Union Street, Pasadena.

Cancer Commission, California Medical Association Cancer Conference for Kern County Medical Society, April 15, El Tejon Hotel, Bakersfield.*

American College of Obstetricians and Gynecologists, April 21 to 23, Los Angeles. *Contact:* John C. Ullery, M.D., secretary, 15 South Clark St., Chicago 3.

Cancer Commission, California Medical Association Cancer Conference for Mendocino-Lake County Medical Societies, April 24, State Hospital, Ukiah.*

American College of Chest Physicians, California Chapter, Scientific Meeting, April 26, 9 to 5, Embassy Room, Ambassador Hotel, Los Angeles. *Contact:* Thomas B. Wiper, M.D., secretary-treasurer, 536 Mason Street, San Francisco 2.

**Contact:* Walter E. Batchelder, M.D., medical director, California Medical Association Cancer Commission, 450 Sutter St., San Francisco 8.

American Society of Internal Medicine Annual Meeting, Chalfonte-Haddon Hall, Atlantic City, April 26 and 27. *Contact:* Mrs. Mildred B. Coleman, assistant secretary, or Claude P. Callaway, M.D., secretary-treasurer, 350 Post Street, San Francisco.

Cancer Commission, California Medical Association Pre-Convention Conferences on Pathology and Radiology, April 26, Ambassador Hotel, Los Angeles.*

California Medical Association Annual Meeting, Ambassador Hotel, Los Angeles, April 27 to 30. *Contact:* John Hunton, executive secretary, 450 Sutter St., San Francisco 8, or Ed Clancy, director, Public Relations, 2975 Wilshire Blvd., Los Angeles 5.

MAY MEETINGS

Los Angeles County Heart Association Annual Membership Meeting, May 1, 7:00 p.m., Los Angeles. *Contact:* Chauncey A. Alexander, executive director, 660 S. Western Avenue, Los Angeles 5.

California Conference of Local Health Officers Semi-Annual Meeting, Los Angeles, May 1 and 2. *Contact:* Dr. John C. Dement, chief, Division of Local Health Service, State Department of Public Health, 2151 Berkeley Way, Berkeley 4.

Western Gerontological Society Third Annual Convention, May 3 and 4, Hotel Statler, Los Angeles. Begins 1:00 p.m. May 3. *Contact:* Chas. A. Preuss, M.D., president, 1317 Santa Barbara Street, Santa Barbara.

Group Psychotherapy Association of Southern California Annual Meeting, May 3, all day, Chapman Park Hotel, Los Angeles. *Contact:* E. Parl Welch, Ph.D., 450 N. Bedford Drive, Beverly Hills.

Cancer Commission, California Medical Association Cancer Conference for Sonoma County Medical Society, Santa Rosa, May 8.*

American Psychiatric Association Annual Meeting, May 12 to 16, Civic Auditorium, San Francisco. *Contact:* Alfred Auerback, M.D., 450 Sutter St., San Francisco.

Hawaiian Divisional Meeting, American Psychiatric Association, May 17 to 22, Hawaiian Village, Honolulu. *Contact:* Alfred Auerback, M.D., 450 Sutter St., San Francisco.

Western Branch, American Public Health Association Annual Meeting with Canadian Public Health Association, May 19 to 23, Vancouver, B. C. *Contact:* Mrs. L. Amy Darter, secretary-treasurer, 2151 Berkeley Way, Berkeley 4.

American Laryngological Association, May 19 to 20, San Francisco. *Contact:* James H. Maxwell, M.D., secretary, University Hospital, Ann Arbor, Michigan.

American Broncho-Esophagological Association, May 21 to 23, San Francisco. *Contact:* F. Johnson Putney, M.D., secretary, 1719 Rittenhouse Square, Philadelphia, Pa.

California Heart Association Annual Meeting, Scientific Session and Directors Meeting, Hacienda Motel, Fresno, May 23 to 25. *Contact:* J. Keith Thwaites, executive director, 1428 Bush St., San Francisco.

SUMMER AND FALL MEETINGS

American College of Chest Physicians 24th Annual Meeting, June 18 to 22, San Francisco. *Contact:* Mr. Murray Kornfeld, executive director, 112 East Chestnut St., Chicago 11, Ill.

American Medical Association Annual Meeting, June 23 to 27, San Francisco. *Contact:* American Medical Association, 535 North Dearborn St., Chicago 10.

American Proctologic Society, June 29 to July 3, Los Angeles. *Contact:* Norman D. Nigro, M.D., secretary, 10 Peterboro St., Detroit 1, Michigan.

Idaho State Medical Association Annual Convention, July 6 to 9, Sun Valley, Idaho. *Contact:* Armand L. Bird, executive secretary, 364 Sonna Building, Boise.

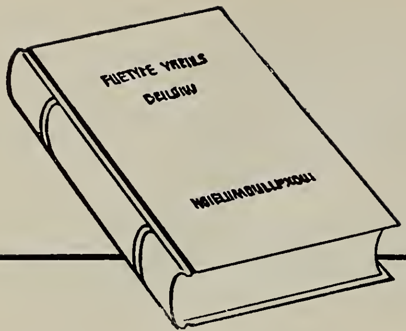
Washington State Medical Association Annual Convention, September 14 to 17, 1958, Spokane, Washington. *Contact:* Ralph W. Neill, executive secretary, 1309 Seventh Ave., Seattle, Wash.

California Academy of General Practice Tenth Annual Scientific Assembly, October 5 to 8, Masonic Temple, San Francisco. *Contact:* William W. Rogers, executive secretary, 461 Market Street, San Francisco 5.

Los Angeles County Heart Association Professional Symposium, October 8 and 9, Wilshire Ebell Theatre, 9 to 5. *Contact:* C. A. Alexander, executive director, Los Angeles County Heart Association, 660 S. Western Avenue, Los Angeles 5.

California Society of Internal Medicine Annual Meeting, October 17 to 19, Ahwahnee Hotel, Yosemite. *Contact:* Mrs. Mildred B. Coleman, executive secretary, or Dr. Clyde C. Greene, secretary-treasurer, 350 Post St., San Francisco 8.

American Heart Association Scientific Sessions and Meetings, October 24 to 28, Fairmont Hotel and Civic Auditorium, San Francisco. *Contact:* J. Keith Thwaites, executive director, California Heart Association, 1428 Bush Street, San Francisco 9.



THE PHYSICIAN'S *Bookshelf*

CURRENT SURGICAL MANAGEMENT—A Book of Alternative Viewpoints on Controversial Surgical Problems—Editors: John H. Mulholland, M.D., New York University College of Medicine, Editor-in Chief; Edwin H. Ellison, M.D., Ohio State University College of Medicine, and Stanley R. Friesen, M.D., University of Kansas Medical Center. With Contributions by 76 American Authorities. W. B. Saunders Company, Philadelphia, 1957. 494 pages, $10.00.

This is an interesting book which is directed towards the practicing surgeon, not the student or intern. It will be of particular interest to residents in surgical training who are anxious to have alternative viewpoints about surgical problems of controversial nature presented with strong and equal conviction though expressing opposing viewpoints. Each controversial area is discussed first by a prominent experienced surgeon expressing one view of surgical therapy, and immediately thereafter the next chapter presents an alternative surgical viewpoint by another expert with equal logic and vigor. The controversial areas discussed cover such topics as gastrointestinal bleeding, peptic ulcer, portal hypertension, carcinoma of the breast, cholecystitis, thyroid carcinoma, and other similar subjects.

The discussions are pointed, concise, and written by prominent surgeons of wide experience. The divergent views point up the fact that answers to the problems under discussion of true significance and value can only be obtained by subjecting the problems to designed and controlled experimentation. The scientific method must be applied to clinical experiments in the future if the answer is to represent other than strong personal convictions based upon personal experience in surgery. Design and control of clinical research might yield better answers to these basic surgical problems, but the book makes an honest effort to present the alternative viewpoints with equal candor and conviction.

This book is valuable and enjoyable reading for the surgeon, and may stimulate designed experiments of a clinical nature to yield more scientific answers to basic surgical questions.

Victor Richards, M.D.

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DERMATOLOGIC FORMULARY—Frances Pascher, M.D., Editor, Hoeber-Harper, New York, 1957. 172 pages, $4.00.

In its preface this book notes that one of its main purposes is to serve the practitioner by listing the most tried and useful dermatologic prescriptions. Another objective is to supply a model dermatologic formulary from which other hospitals, clinics and institutions can select a longer or shorter list of standard preparations for the treatment of skin diseases. In selecting the individual items thought was given to the stability, the sensitizing potential, the pH, the availability, the practical "consumer acceptance," and the cost, as well as to the efficacy of the drug.

Each preparation is listed by name and number. Its formula is given and its chemistry and properties are briefly described. A short and simple discussion of each is then given under the headings of Actions and Uses, Indications, Contraindications and Directions. In some cases additional notes are provided under the headings of Side Effects and Caution.

The book is divided into four sections—Topical Remedies, Systemic Therapy, Articles for Clinic Use and Therapeutic Aids. The major part of the book is devoted to the first two sections. In Section I topical remedies are described under the headings of baths, soaps, shampoos, wet dressings, lotions, ointments, powders, lozenges and the like. In Section II subdivisions of systemic therapy include acids and antacids, analgesics, antibiotics, antihistamines, hormones, and so forth. In Section III listings include local anesthetics, biologicals, cauterizing agents, dressings and bandages and other miscellaneous preparations. Section IV contains cosmetic and treatment aids, directions for long-term corticotropin and/or corticosteroid therapy, and outlines printed instructions for patients' use in care of acne, impetigo and other pyodermas, scabies, home care of scalp ringworm, varicose veins and wet dressings.

In all, more than 250 individual preparations or therapeutic aids are listed. The index is comprehensive. The drugs or compounds are listed alphabetically. The dermatoses or skin conditions are also listed. One can, therefore, refer to the index either for suggestions regarding choice of treatment for a disease, or for a description of the properties and use of a given drug.

I believe this book serves its purposes very well. It should be useful both to individual practitioners who treat skin diseases and to hospitals and clinics as a model for their dermatologic formularies.

Herman V. Allington, M.D.

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PRACTICAL ELECTROCARDIOGRAPHY—Second Edition—Henry J. L. Marriott, M.D., Associate Professor of Medicine, University of Maryland. The Williams and Wilkins Company, Baltimore, 1957. 226 pages, $5.00.

Dr. Marriott's text book is a clear, simple, lucid account of electrocardiography for beginners. The illustrations are good, the material is up-to-date, and the book is very easy to read. The salient diagnostic features of each pattern are clearly indicated in block summaries which facilitates the reading. There is a short, but pertinent, bibliography at the end of each chapter.

The discussion of each subject is brief and elementary and will not appeal to advanced students. The account of congenital heart disease is inadequate because of its extreme brevity. Physiological and electrophysiological discussions are exceedingly limited.

The book can be recommended as an elementary primer for individuals who would like a sound summary of electrocardiographic patterns for review. It is not recommended for specialists in the field.

PROBLEMS IN AMOEBIASIS—Charles William Rees, Ph.D. Charles C. Thomas, Springfield, Illinois, x+119 pages. 1955. $4.75.

Dr. Rees has led a productive career in investigations in parasitic protozoa. For twenty years he was associated with the National Institutes of Health, studying *Entamoeba.* Upon retirement from the N.I.H., he became head of research on amoebiasis at Northwestern School of Medicine in Chicago. His book Problems in Amoebiasis brings together in a concise manner the current status of basic information on the problem.

The history of *Entamoeba* is divided into three periods. In the first there were doubts that it caused dysentery; in the second it was regarded as an absolute pathogen; and in the third and current period there is a wide discrepancy of opinion among the workers.

Because of the little information available on the inherent pathogenicity of *E. histolytica*, its method of attack, or its participation with other microorganisms in the production of amoebiasis, only limited progress has been made in chemotherapy.

Although practical approaches such as sanitation, filtration and clinical treatment of water, sewage disposal, inspection of handling and processing of food, screening of buildings against flies, and popular education have greatly reduced the incidence of *E. histolytica*, the basic problems in amoebiasis now are in the fields of physiological chemistry, bacteriology, and clinical medicine.

Present day methods of diagnosis of *Entamoeba* infections at best require skill, experience, and patience. The author, through his years of experience, ably discusses needs for caution in handling feces and gives three methods of procedure, results, and their interpretation. They include (1) microscopic examination with special emphasis on the zinc flotation method, including a discussion on its use, (2) "in vitro" cultures, using antibiotics to inhibit bacterial growth, and (3) immuno-diagnostic methods which require further study and development. In addition, he points out the need of a fourth method based on inoculation of fecal material from patients into the cecum of rabbits and guinea pigs for detecting light infections by producing amoebic dysentery in them where other methods failed to elucidate the cause of symptoms in the patients.

Amoebae can be cultured "in vitro" successfully by introducing an inoculum of intestinal contents containing them into a diphasic medium. Such cultures contain many species of bacteria and, therefore, are considered as "crude" in contrast to those containing but a single species and designated as monoxenic. Because of the activities of the bacteria, crude cultures are not useful for studies on the metabolism of the amoebae, nor on pathogenicity and chemotherapy in experimental animals. However, they have provided abundant information on the stages of encystation, excystation, and metacystic development but none on the transitional growth from tiny amoebulae to large trophozoites. In addition crude cultures provide a constant and ample supply of cysts for studying the effect of chemical agents on them in potable water, on leafy vegetables, and in other situations.

The complicating factors introduced by bacteria in crude cultures can be eliminated by establishing bacteria-free cultures. The methods are (1) trophozoites from bacteria-free amoebic liver ulcers, (2) freeing cysts from bacteria by chemical treatment, (3) micro-isolation of cysts, and (4) treatment of cultures with antibiotics effective against the bacteria but tolerated by the amoebae. Having obtained bacteria-free amoebae, a single species of bacteria may be introduced to produce monoxenic cultures.

E. histolytica can be grown in monoxenic cultures containing bacteria, especially *Clostridrium perfringens*, or *Trypanosoma cruzi* which produce factors essential to the growth of the amoebae. While excystation of the amoebae occurs in anaerobic bacteria-free cultures containing an enriched balanced salt solution, division does not. *E. histolytica* probably is an anerobe. "In vitro" evidence indicates that it is a phagotroph. Since all attempts to produce it in associate-free cultures have failed, the author visualizes such a project as an attractive problem for a team of investigators, including protozoologists, bacteriologists, physicists, biochemists, and physiologists.

Currently 27 agents, including four preparations of emetine, seven aromatic arsenicals, three iodoquinolines, seven antibiotics, one Kurchi alkaloid, one German product (Gavano), one acridine, two bismuth compounds, and chloroquin, have been used against amoebae. Most "cures" have relapsed when observed continuously over a longer period. Emetine is promising against amoebae in liver abscesses but has serious effects on cardiac muscle. The aromatic arsenicals and iodoquinolines are useful against amoebae in the intestine.

Problems in screening drugs "in vitro" arise from the fact cultures contain other organisms whose products are essential to the survival of the amoebae. Hence a compound appearing to be amoebostatic or amoebicidal may be only bacteriostatic or bactericidal.

Pathogenicity in the intestine appears to be associated with the presence of bacteria. Bactericidal antibiotics relieved severe amoebic dysentery in humans. Virulent strains of amoebae grown in cultures with *Trypanosoma cruzi* failed to produce lesions in bacteria-free guinea pigs when injected into the caecum, whereas animals harboring either *Escherichia coli* or *Aerobacter areogenes* developed lesions. Guinea pigs with normal bacterial fauna readily developed lesions.

Dogs appear to be better experimental animals than kittens, rats, macaques, rabbits, or guinea pigs for testing drugs.

Studies on the fate of amoebicidal drugs in the host as well as on the parasite are prerequisite to comparative tests.

The final chapter by Clarence A. Imboden, M.D., sets forth in concise fashion information on the etiology, intestinal and extraintestinal pathology, management, and treatment of amoebiasis.

The trophozoite is the vegetative form that invades the tissues. Under appropriate conditions, it encysts. Infection occurs upon ingestion of the cyst and liberation of the amoeba.

Large and small races are recognized with the large one being pathogenic. Pathogenicity is associated with the enteric bacterial flora. Diet doubtless influences the flora and therefore the pathogenicity of the amoebae. Individual host resistance or susceptibility likewise play important roles.

The most severe intestinal lesions appear in clinical cases but a surprising amount of pathology occurs with minimal symptomatology. Lesions are most common in the caecum, proximal ascending colon, and sigmoid or rectosigmoid regions.

The initial mucosal lesion in the intestine is a small superficial pinpoint crater with a yellow center and erythematous areola. It develops into a flask-shaped ulcer. The most common intestinal lesion is the "amoeboma," an inflammatory tumor. Massive haemorrhage may occur from erosion of a large vessel or profuse oozing from extensive ulcers.

Extra-intestinal lesions are metastatic from intestinal sites. Liver lesions are most common in the right lobe, probably due to hemodynamics of portal circulation from the colon. Pulmonary amoebiasis is usually secondary to liver involvement. Brain tumors are rare and practically never encountered except in cases of liver and lung infection. Cutaneous amoebiasis occurs in fistulous openings around the anus.

Clinical manifestations are set forth as (1) chronic intestinal amoebiasis, the most common, (2) acute intestinal amoebiasis (dysentery), (3) intestinal complications, and (4) extra-intestinal complications. Each of these phases is discussed.

All infections of amoeba should be treated. Therapy should encompass intestinal flora as well as the parasite. Treatment should take into consideration intestinal and extra-intestinal infections.

O. Wilford Olsen,
Department of Zoology,
Colorado State University

* * *

PRACTICAL ALLERGY—M. Coleman Harris, M.D., F.A.C.P.; Norman Shure, M.D., M.S., F.A.C.P. F. A. Davis Company, Philadelphia, 1957. 471 pages, $7.50.

This is an excellent treatise on clinical allergy as encountered in medical practice. It is replete with information. The manner of writing is direct, concise, easy and pleasing to read.

The perusal of each chapter and indeed of nearly every paragraph will review available knowledge and stimulate and enlighten any physician who assumes the responsibility of study and control of some or all of the problems which are due primarily or secondarily to allergy. Allergists also will be benefited by reading each chapter. Such review of our present knowledge and experience and technique in diagnosis and treatment of other allergists is most important. It will acquaint them with the ideas of two veteran workers in this field and may yield increased efficiency and improved results in the readers' clinical efforts.

As the book has been carefully read by this reviewer the following chapters seem of special value because of their information and for later references: The Nature of the Allergic Reaction; The History and Physical Examination; Laboratory Procedures; Bacterial, Physical and Insect Allergies; Pollen as a Cause of Allergy—with its carefully compiled lists and frequencies of pollens in many areas throughout the United States; Drug Reactions—in which a list of symptoms from most important allergenic drugs is contained; Collagen Disease—a very concise and helpful chapter; The Emotional Factor—a reasonable and helpful chapter; Office Allergy Technique; Materia Medica—in which all groups of drugs and hormones available for allergy practice are listed.

The important care and sterilization of syringes, needles, vials and the types of extraction and diluting fluids is most important to keep in mind even though a physician is not making his pollen extracts, other inhalant antigens, vaccines and allergens for testing in his own laboratories.

Chapters on the diagnosis and treatment of manifestations of clinical allergy are concise and informative even though space in a treatise of this type did not allow details of histories, methods of study, and results of indicated therapy. Because of the variations in methods of study and control of clinical allergies, no reviewer would agree with all opinions of the authors. This is especially true of the many manifestations, methods of diagnosis and control of food allergy.

This well-written, informative and withal concise book on Practical Allergy should be read, studied and held for ready reference by all physicians and allergists who assume the challenge of aiding and controlling the many manifestations of clinical allergy.

Albert H. Rowe, M.D.

PEDIATRIC ROENTGENOLOGY—Dr. M. A. Lassrich, Prof. Dr. R. Prévot, Prof. Dr. K. H. Schäfer, Hamburg. Edited by Prof. Dr. K. H. Schäfer, Hamburg. Translation from the German provided by James T. Case, M.D., D.M.R.E. (Cambridge), Professor Emeritus, Radiology, Northwestern University Medical School, Chicago; Director, Memorial Cancer Foundation, Santa Barbara. Grune & Stratton, Inc., New York, 1957. 333 pages, 700 illustrations, $28.00.

This well printed and well arranged monograph is divided into three main sections dealing respectively with disorders of the thoracic organs, the abdominal organs, and the skeletal system.

The section on thoracic organs is subdivided into chapters covering the normal thorax, the pathologic thorax, both of these terms applying to the upper and lower respiratory tract, and the heart and great vessels.

The section on abdominal organs is divided into preliminary considerations of abdominal roentgenography, normal and abnormal findings in the alimentary tract, biliary tract, genitourinary tract, and adrenals. The skeletal system deals with normal and abnormal findings in the skull, vertebral column, bones of the thorax, pelvis, extremities and soft tissues.

While the reproductions are in positive form, the detail is so good, and the accompanying diagrams and legends so clear that they must be regarded as outstanding. The material comes from the University Children's Clinic and the Central Radiation Institute of the University of Hamburg. This is the first English translation of the 1955 German edition and was printed in Germany. It is one of the best illustrated monographs on pediatric roentgenology with which this reviewer is acquainted.

L. H. Garland, M.B.

* * *

MANAGEMENT OF COMPLICATIONS IN EYE SURGERY—Edited by R. M. Fasanella, M.D., Chairman, Section of Ophthalmology, Yale University School of Medicine. W. B. Saunders Company, Philadelphia, 1957. 422 pages, illustrated, $16.00.

Most of the textbooks on ophthalmic surgery devote insufficient space to the prevention of the pitfalls and the management of the complications of eye surgery and injuries. It has been said many times that "the only surgeon who does not have complications is one who does not operate." It is therefore refreshing to find a book the entire contents of which deals with these important subjects.

The book consists of 23 chapters which have been contributed by some of the outstanding eye surgeons of this country. These chapters cover the pitfalls and complications of the various surgical procedures currently used in ophthalmology. The editor of the volume has chosen authors of the various chapters because of their particular interest in their subject. For example: Paton on keratoplasty; Berke on ptosis surgery; Pischel on retinal detachment surgery; and Kronfeld on delayed restoration of the anterior chamber after cataract surgery.

Of particular importance are the chapters on Anesthetic Complications by Atkinson; Medical Complications of Eye Surgery by Bondy of the Department of Medicine of Yale; and the Psychiatric Aspects of Ocular Surgery by Lincoff. The final two chapters on Rehabilitation of the Low Vision Patient by Fonda and the Estimation of Loss of Visual Efficiency by Spaeth, Fralick and Hughes add to the value of the book.

The format is good, the reproduction of photographs and line drawings is excellent and the type and paper are up to the usual Saunders' high standard. The index of 13 pages is complete and covers the material adequately.

The book is a must for the ophthalmic surgeon.

Frederick C. Cordes, M.D.

SIGNS AND SYMPTOMS—Applied Pathologic Physiology and Clinical Interpretation—Third Edition—Edited by Cyril Mitchell MacBryde, A.B., M.D., F.A.C.P., Associate Professor of Clinical Medicine, Washington University School of Medicine. J. B. Lippincott Company, Philadelphia, 1957. 973 pages, 191 illustrations, 6 color plates, $12.00.

The editor of this book and the twenty-six other authors who have written the thirty-four respective chapters acquaint the reader with the most common symptoms and findings which cause people to seek the care of a physician. They have followed carefully a plan to develop a quality of analysis which uses a knowledge of physiology as its central structure and to point out essential deviations from the normal which may have a wide variety of causes, including organic disease. Although the obvious objective is toward accuracy and diagnosis, which is based on understanding fundamental processes, it is written, nevertheless, in a concise and interesting manner.

Emphasis is given to the advantages of obtaining a good history as it might be developed by the use of the physiologic approach rather than by following a stereotyped form. The editor's introduction, which discusses the process of analyzing and interpreting symptoms and findings, is an excellent statement and contains advice from which every practicing physician and every medical student can profit. At the conclusion of each chapter is a comprehensive list of references to original articles from which one could expand his reading and, thereby, his knowledge of particular symptoms and findings.

The book is a scholarly and informative presentation of important practical topics. It is well illustrated by prints of pertinent diagrams, charts, and photographs (some in color) which clarify respective texts. It is recommended as a book which physicians, medical students, and teachers in medical schools should have available for their personal use, which, no doubt, would be frequent.

* * *

THE FUNCTION OF THE URETER AND RENAL PELVIS—Pressure Recordings and Radiographic Studies of the Normal and Diseased Upper Urinary Tract of Man—Fredrik Kiil, M.D., Research Associate, Institute for Experimental Medical Research, University of Oslo. W. B. Saunders Company, Philadelphia, 1957. 205 pages, illustrated, $7.50.

This interesting monograph of some 200 pages is an important contribution to the numerous studies that have been made on the activity of the human ureter under various normal and pathological conditions. It is primarily a research study, with only a relatively minor effort to apply the findings and conclusions to clinical problems.

The first section of the book is a discussion of methods used both by the author and by previous investigators. The latter are first discussed and their results and conclusions subjected to critical analysis. These studies have been done, of course, both on isolated ureteral preparations and on living human patients. His opinion is that the latter are the only reliable methods, and he describes in some detail the equipment and technique he employs, which is essentially a graphic manometric recording of the ureteral pressure and activity synchronized with pyeloureterograms obtained by the simultaneous use of two small catheters in the same ureter. He is convinced that there is no evidence that ureteral activity is influenced by mechanical irritation from the catheters.

The second section of the book concerns his findings with various conditions and stimuli affecting the normal ureter, emphasizing the effect upon the normal intraureteral pressure and the height and frequency of contractions. He has definite opinions on several controversial questions. He finds no evidence of any kind of nervous control of ureteral activity; he states that bladder distention causes no effect on ureteral contractions until the bladder pressure exceeds the pressure in the lower ureter; he finds no evidence for any kind of specialized closing mechanism at the ureterovesical junction, and believes that normally reflux is prevented only by the obliquity of the channel through the bladder wall.

Experiments were made with many of the drugs alleged to affect ureteral activity and none of them were found to have any significant influence upon tone or contractions. The absence of such effects from several anticholinergic drugs confirms his opinion that the ureter, unlike the gastrointestinal tract, is not under the control of the parasympathetic nervous system.

The final section discusses briefly ureteral activity in several types of clinicopathological conditions, especially various types of hydronephrosis, including that of pregnancy, which he conceives to be entirely a mechanical obstruction; the effect of prostatism, and there is included a brief consideration of the possible causes of megaloureter.

The author is not dogmatic in his conclusions. He merely reports factually his findings and the interpretations and conclusions he feels may properly be drawn. He describes with equal honesty the points in which he fails to agree with former studies and where he confirms the findings, pointing out the limitations of the work and the possible sources of error. It will be a valuable book for the scientifically inclined, not only for the information it gives, but as a basis for some individual thinking.

LYLE G. CRAIG, M.D.

* * *

EXTENSILE EXPOSURE—Second Edition—Arnold K. Henry, M.B., Dublin; M.Ch. (Hon.) Trinity College, Dublin and Cairo. The Williams and Wilkins Company, Baltimore, 1957. 320 pages, $10.00.

The title of this book, when understood, explains its purpose. Exposure during surgical operations must have a range adequate to permit the surgeon to accomplish his work with maximal ease and minimal trauma. This range of surgical exposure is necessarily expansile and extensile, hence the title "Extensile Exposure." The author is an Emeritus Professor of Clinical Surgery in the University of Egypt and a Professor of Anatomy in the Royal College of Surgeons of Ireland. The combination denotes an interest and experience which should result in a practical sound work which would be specifically designed for the operating surgeon. This, in fact, has been admirably accomplished, and attests the need for continued revisions and editions of this book as surgery progresses.

Extensile Exposure concerns itself primarily with the exposure of the extremities. However, the neck, the costal arches, and the hypogastric exposures as related to exposure of the extremity structures are included. The illustrations are excellent, and the style is practical. The exposures described and illustrated are direct, anatomical, and well conceived. It is on the whole an excellent book on extremity exposures.

The only objection which the reviewer finds in the book is its rather ponderous style in numerous interspersed sentences which abound in metaphors and similes. At times the author strives more for elegance of expression than clarity, and does not follow the introductory maxim of Anatole France . . . d'abord la clarté, puis encore la clarté, et enfin la clarté. These passages make for uneven reading of the main portion of the text which is direct and clear. The book will be welcome reading to the surgeon who wishes good concise discussion and illustration of the surgical anatomy of the extremities.

VICTOR RICHARDS, M.D.

THE RIDDLE OF STUTTERING—C. S. Bluemel, M.D., The Interstate Publishing Company, Jackson & Van Buren, Danville, Illinois, 1957. 142 pages, hard bound, $3.50; paper bound, $1.50, accompanying 4 therapy records, $3.00.

This book—according to the author—presents his conclusions for the appraisal of the speech correctionist and the stutterer himself. This task is as courageous as it is dangerous. The speech correctionist lacks psychiatric training and lacks therefore the necessary experience in diagnosis and treatment of neurosis. The patient himself will try to find in this book his own emotional story and might identify himself with somebody else's problem instead of finding himself—without a book, but through psychotherapy. To make things more complicated, the author tries to find new meaning in the semantic difference between stuttering and stammering. While the medical speech specialist tries to simplify the situation by eliminating the term "stammering" and by calling the whole syndrome "stuttering," the author proposes to call nonorganized speech, prespeech or speech in the making "stuttering" which can be carried into adult life as subnormal speech function. Nonorganized speech is differentiated from disorganized speech, marked by blocking and called "stammering." While stuttering is considered a developmental deficiency of speech, stammering is called a neurotic disorganization. To the reviewer these theories come close to playing with words and one feels reminded of Mephistopheles in Goethe's Faust: "When ideas fail, words come in very handy."

Besides most interesting observations on personality traits of stutterers one finds the wrong statement that stammering seems to be especially common among Germans, a fact which he blames on the mechanical difficulty of the language "for the consonants come in chunks," while there were less stammering in Spain and Italy partly because of the culture in which the language is employed and partly because of the nature of the language. The author forgets the rareness of stuttering in the Chinese and the American Indians which has nothing to do with language but with the child's security within the family.

The author hopes that neuropsychiatry may offer yet help for the problem of stammering and stuttering, although he thinks that Freudian theories seem to be exhausted. He therefore assumes that Freudian theories are static and have reached a dead end! The bibliography is part of a chapter "Retrospect" and does not represent an informative source of historical information. The therapeutic outline is as incomplete. Even the chewing method by Froeschels is not mentioned. Still the ideas of the author are worthwhile for the physician interested in the personality traits of the stutterer.

Paul J. Moses, M.D.

* * *

THE YEAR BOOK OF OBSTETRICS AND GYNECOLOGY—1957-1958 Series—Edited by J. P. Greenhill, B.S., M.D., F.A.C.S. The Year Book Publishers, Inc., 200 East Illinois Street, Chicago, 1957. 597 pages, $7.50.

This is the annual compilation of abstracts from the significant literature in this field, edited under the direction of Chicago gynecologist and obstetrician, J. P. Greenhill. The articles abstracted are taken from journals received between July 1956 and July 1957. The material is evenly divided between obstetrical subjects and gynecological ones.

In obstetrics, adequate attention is given to the timely subjects of postmaturity, coagulation defects, and perinatal mortality. Practically all the authoritative literature on these matters is covered. In gynecology, forty-six pages and some thirty articles are devoted to infertility, a not disproportionate ratio. Under operative gynecology, the majority of articles are concerned with urinary relationships (particularly stress incontinence), demonstrating the increasing attention being given to gynecologic urology in this field. The discussion of malignant tumors occupies approximately one-fourth of the section on gynecology.

A special feature of this edition is an article "Genetic Considerations in the Practice of Ovarian Irradiation for the Treatment of Sterility" by L. B. Russell of the Biology Division, Oak Ridge National Laboratory. This short article discusses in general terms some of the genetic aspects of this subject and is recommended reading. It carries a short bibliography.

As usual, the editor's comments add much to this book. He surveys additional pertinent literature not covered by the abstracts. His comments in this edition reflect an increasing awareness of medico-legal implications affecting the specialty.

This book can be recommended to any practitioner working in this field and wishing a handy reference of abstracts of current literature.

Keith P. Russell, M.D.

* * *

THE PATHOLOGY AND SURGERY OF THE VEINS OF THE LOWER LIMB—Harold Dodd, Ch.M. (Liverpool), F.R.C.S. (Eng.), Surgeon to St. Mary's Hospital (London) Group; and Frank B. Cockett, M.S. (London), F.R.C.S. (Eng.), Surgeon to St. Thomas's Hospital, London. E. & S. Livingstone Ltd., Edinburgh and London, 1956. Distributed in U.S.A. by Williams and Wilkins Company, Baltimore, 1956. 462 pages, $12.50.

This book is written in a concise and clear manner, and covers admirably the subject of venous disorders of the lower leg. The approach is stimulating and interesting. The experience of the author is rich and well presented. The surgical anatomy of the veins of the leg is presented in a graphic and succinct manner. The pathological physiology of venous disorders of the limb is well discussed. The treatment of varicose veins, varicose ulcers, and phlebitis as recommended by the authors is sound and rewarding. The book can be recommended to anyone interested in a deeper understanding of venous disorders of the lower limb.

Victor Richards, M.D.

* * *

SPEECH CORRECTION AT HOME—Morris Val Jones, Ph.D., Director, Speech and Reading Clinic, Morrison Center for Rehabilitation. Charles C. Thomas, Publisher, Springfield, Illinois, 1957. 138 pages, $4.75.

This book intended for the family of speech-handicapped individuals is of practical value for physicians who want to place useful material in the hands of the mother of a speech-defective child or the wife of the aphasia patient. It contains a good description of normal and faulty speech development, it describes helpful hints for the improvement of the emotional situation of the stutterer. Exercises for children with cleft palate, open bite, cerebral palsy are given. The laryngectomized patient finds directions for the "do-it-yourself" training of esophageal voice.

The special value of this book is in the encouragement of the family and the patient, but also of the physician that speech therapy is by no means a mystic and magic field which is reserved for members of the guild of a few—certainly nonmedical—specialists. Speech defects need daily care at home since correction in school cannot be given often enough due to the enormous case load. The necessary exercises are described in simple form. Psychological theories are omitted. The bibliography—as we find it so often in books by speech therapists—does not contain any material written by physicians.

Paul J. Moses, M.D.

APPLICATION FOR HOUSING ACCOMMODATIONS

FOR YOUR CONVENIENCE in making hotel reservations for the coming meeting of the **California Medical Association,** April 27 to 30, 1958, Los Angeles, hotels and their rates are at the right. Use the form at the bottom of this page, indicating your first and second choice. Because of the limited number of single rooms available, you will stand a much better chance of securing accommodations of your choice if your request calls for rooms to be occupied by two or more persons. **All requests for reservations must give definite date and hour of arrival as well as definite date and approximate hour of departure; also names and addresses of all occupants of hotel rooms must be included.**

ALL RESERVATIONS MUST BE RECEIVED BEFORE: APRIL 1, 1958

Eighty-seventh Annual Session
CALIFORNIA MEDICAL ASSOCIATION
Los Angeles, California
APRIL 27-30, 1958

HOTEL ROOM RATES *

	Single	Twin Beds	Suites
AMBASSADOR HOTEL 3400 Wilshire Boulevard			
Main Building	9.00-19.00	12.00-22.00	28.00-38.00
Garden Studios	17.00-23.00	22.00-30.00	40.00-54.00
CHAPMAN PARK HOTEL 3405 Wilshire Boulevard		12.00-16.00	20.00-25.00
THE GAYLORD HOTEL 3355 Wilshire Boulevard	8.00	10.50	18.00
HOTEL CHANCELLOR 3191 West Seventh Street	7.00- 8.00	10.00-12.00	
SHERATON-TOWN HOUSE 2961 Wilshire Boulevard	11.00-18.00	16.00-23.00	31.00

***The above quoted rates are existing rates but are subject to any change which may be made in the future.**

CALIFORNIA MEDICAL ASSOCIATION
450 Sutter Street—Room 2000
San Francisco 8, California

Please reserve the following accommodations for the 87th Annual Session of the California Medical Association, in Los Angeles April 27 to 30, 1958.

Single Room $.................... Twin Bedded Room $....................

Small Suite $.................... Large Suite $.................... Other Type of Room $....................

First Choice Hotel.................... Second Choice Hotel....................

ARRIVING AT HOTEL (date).................... Hour:..........A.M..........P.M. { Hotel reservations will be held until

Leaving (date).................... Hour:..........A.M..........P.M. { 6:00 P.M., unless otherwise notified

THE NAME OF EACH HOTEL GUEST MUST BE LISTED. Therefore, please include the names of both persons for each twin-bedded room requested. Names and addresses of all persons for whom you are requesting reservations and who will occupy the rooms asked for:

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Individual Requesting Reservations—Please print or type Delegate?.......... Alternate?..........

Name.................... County....................

Address.................... City and State....................

CANCER COMMISSION
CALIFORNIA MEDICAL ASSOCIATION

PRE-CONVENTION CONFERENCES

LOS ANGELES • SATURDAY, APRIL 26

Radiology

West Venetian Room, Ambassador Hotel

Chairman	Eugene G. Tainter, M.D., Sacramento
Secretary	Louis Bonann, M.D., Los Angeles

DIAGNOSTIC SESSION—9:30 a.m. to noon

Twelve diagnostic cases with histories and films will be presented. Cases have been selected to illustrate specific problems in the radiological and clinical diagnosis of cancer. Audience participation and discussion are urgently requested.

THERAPY SESSION—2:00 p.m. to 4:30 p.m.

Five cases with specific therapy problems will be presented. The audience is asked to participate actively.

Pathology

9:15 a.m. to noon • 2:00 p.m. to 4:30 p.m.

East Venetian Room, Ambassador Hotel

Moderator: PAUL MICHAEL, M.D., Oakland

The Pre-Convention Conference on the Tumors of Childhood will be conducted under the chairmanship of George J. Hummer, M.D., Santa Monica.

Members who wish to attend this conference are requested to register now with Weldon K. Bullock, M.D., Registrar, Tumor Tissue Registry, C.M.A. Cancer Commission, Los Angeles County Hospital, 1200 North State Street, Los Angeles 33.

7:00 p.m.

Dinner meeting of the California Society of Pathologists. For reservations contact Ernest Simard, M.D., Secretary, 708 Cass Street, Monterey.

Cancer Commission Dinner

6:30 p.m.—Frenchette Room

Annual Dinner Meeting of the Cancer Commission and Advisory Committee.

CALIFORNIA MEDICAL ASSOCIATION

Scientific Sessions

•

Postgraduate Courses

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Meetings of the House of Delegates

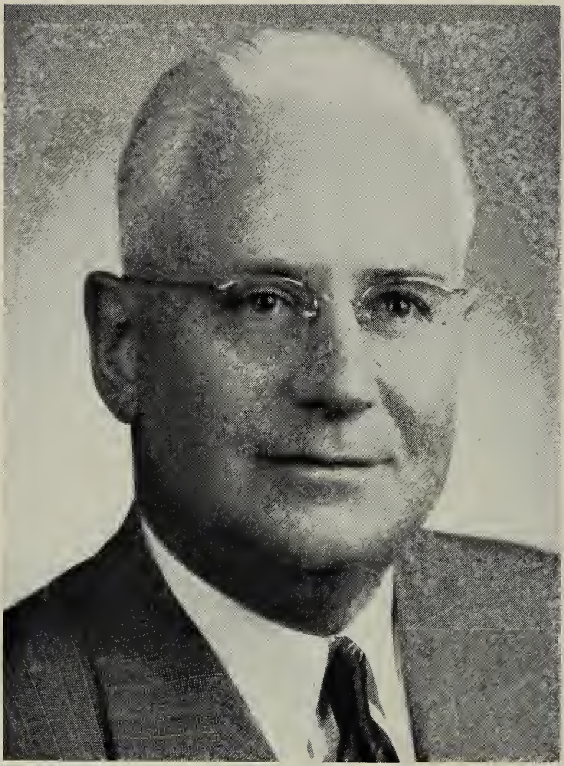
87th
Annual Session

1856

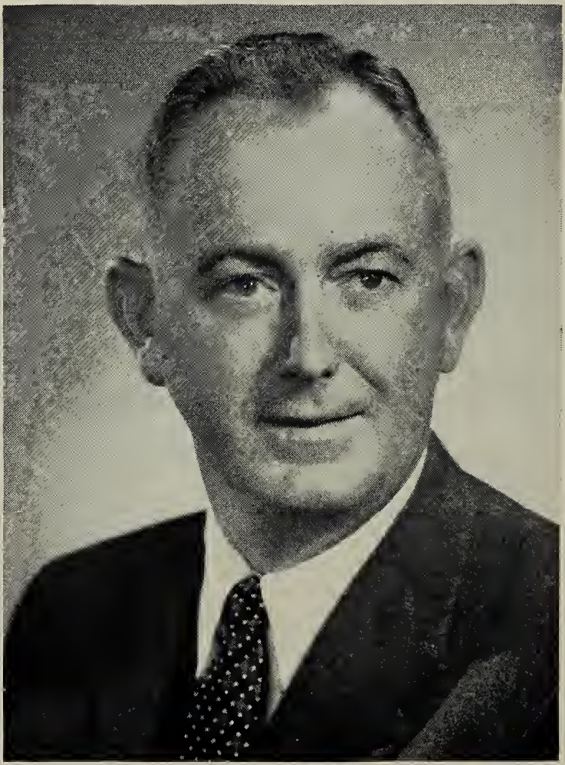
AMBASSADOR HOTEL

LOS ANGELES

April 27 to 30, 1958



FRANK A. MacDONALD
President



FRANCIS E. WEST
President-Elect

PROGRAM AND PRE-CONVENTION REPORTS

for the

CALIFORNIA MEDICAL ASSOCIATION

Eighty-seventh Annual Session

Ambassador Hotel, Los Angeles

April 27-April 30, 1958

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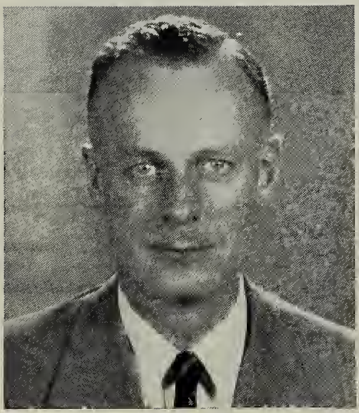
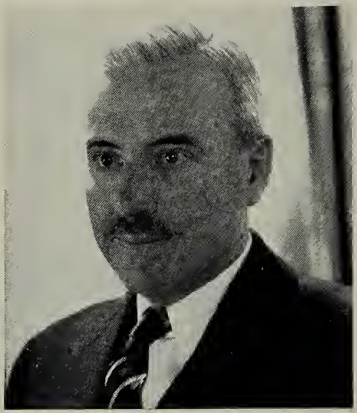


CHARLES S. DAVIDSON



THOMAS PARRAN

MARK M. RAVITCH

BRONSON S. RAY

Guest Speakers

William A. Altemeier, M.D., Cincinnati, Ohio—Christian R. Holmes Professor of Surgery, University of Cincinnati College of Medicine.

Charles S. Davidson, M.D., Boston, Massachusetts—Associate Professor of Medicine, Harvard Medical School.

Thomas Parran, M.D., Pittsburgh, Pennsylvania—Dean, Graduate School of Public Health, University of Pittsburgh.

Mark M. Ravitch, M.D., Baltimore, Maryland—Associate Professor of Surgery, Johns Hopkins University School of Medicine.

Bronson S. Ray, M.D., New York City—Professor of Clinical Surgery (Chief, Department of Neurosurgery), New York Hospital-Cornell University Medical College.

O. E. Hallberg, M.D., Rochester, Minnesota—Mayo Clinic.

Gerald M. McDonnel, M.D., Washington, D.C.—Lt. Colonel, U.S. Army Medical Corps, Walter Reed Hospital.

Ernest L. Wynder, M.D., New York City—Sloan-Kettering Institute.

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Billig, Harvey E., Jr., Los Angeles............. 29
Bishop, Harry A., Los Angeles................... 33
Black, Howard A., Sacramento.................. 30
Boak, Ruth, Los Angeles......................... 21
Bogen, Emil, Olive View........................ 32
Bourdeau, M. S., Glendale........................ 20
Bowman, Jean Claire, Berkeley................... 32
Breslow, Lester, Berkeley....................... 32
Brickley, Paul M., Santa Barbara................. 16
Buster, Chauncey D., San Francisco............. 17

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Cailliet, Rene, Los Angeles..................24, 29
Call, Justin D., Los Angeles.................... 31
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Carpenter, Charles M., Los Angeles............ 21
Carter, Frank H., Jr., San Diego................ 34
Casey, William C., Torrance.................33, 34
Christianson, Mary, Los Angeles................ 31
Clark, Albert G., San Francisco................. 17
Cobb, B. Otis, Martinez......................... 32
Cock, Thomas C., Oakland...................... 28
Cohen, Sidney, Los Angeles..................... 30
Colbert, Edward G., Los Angeles............... 28
Collier, Clarence R., C.M.E..................... 11
Corsa, Leslie, Jr., Berkeley..................... 32
Cosby, Richard S., Pasadena.................... 13
Courville, Cyril B., C.M.E...................... 11
Cozen, Lewis, Los Angeles...................... 26
Crane, Jackson T., San Francisco............... 17
Crowley, Edmund, Los Angeles.................. 34
Cury, Dahar, Jr., Los Angeles.................. 23

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Davis, Harry A., C.M.E......................... 11
Dail, Clarence W., Los Angeles................. 29
Davidson, Charles S., Harvard Medical School... 10
Davidson, Charles S., Boston.................13, 16
DeRiemer, Robert, San Francisco............... 17
DeSanto, Dominic A., San Diego................ 27
Dewey, Earle T., San Francisco................. 24
Dillon, John B., Los Angeles.................... 20
Ditman, Keith S., Beverly Hills................. 30
Domz, C. A., Santa Barbara..................... 16
Drury, Bernard J., Santa Barbara.............. 26
Dubois, Edmund L., Beverly Hills............... 16
Dutra, Frank R., Castro Valley................. 27

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Elias, Ralph B., La Jolla........................ 31
Enelow, Allen J., Beverly Hills.................. 30
Engle, Robert S., Pasadena...................... 33

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Failing, Joseph H., Los Angeles................. 20
Fields, Albert, Los Angeles...................... 24
Filante, Margaret, Los Angeles.................. 30
Fine, Max, San Francisco........................ 23
Finley, Malcolm H., San Francisco.............. 30
Fiske, Claude, Los Angeles...................... 31
Florin, Robert E., Los Angeles.................. 30
Froman, Seymour, Olive View.................... 32

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Gallup, Charles H., Oakland..................... 20
Garoutte, William, San Francisco............... 30
Gaspar, Max R., C.M.E.......................... 11
Geller, Herman M., U.S.C....................... 10
Gettleman, Eugene, Sherman Oaks............. 28
Gifford, Byron L., Santa Barbara............... 16
Goldman, Leon, San Francisco...............13, 17
Gordon, Jack David, San Francisco............. 32
Goren, Morris L., Los Angeles.................. 26
Greenblatt, Harry N., Berkeley................. 32
Guadagni, N. P., San Francisco................ 20
Guiss, Lewis W., Los Angeles................... 17

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Haman, John O., San Francisco................. 34
Hammond, Wylda, Eldridge..................... 32
Hanson, J. Harold, San Francisco.............. 17
Harris, Ralphe W., Santa Ana................... 32
Harsh, George F., San Diego.................... 19
Harvey, Elinor B., Berkeley..................... 19
Haverback, Bernard J., U.S.C................... 10
Hedge, Arden R., Monrovia...................... 24
Hinshaw, David B., C.M.E...................... 11
Hornberger, Ralph C., Berkeley................ 32
House, Leland R., C.M.E....................... 11
House, William F., Los Angeles................. 22
Huddleston, O. Leonard, Santa Monica......... 24
Hurst, Valerie, San Francisco.................. 28

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Irvine, Wendell C., Los Angeles................ 23

J

Jacobs, Laurence L., Lynwood.................. 30
Jennings, Percy H., Jr., Berkeley............... 19
Jennings, W. Kenneth, Santa Barbara.......... 13
Jessup, R. Bruce, San Francisco.............20, 34
Johns, Varner J., Los Angeles.................. 16
Johnstone, R. T., Los Angeles.................. 24
Jones, Laurence, Beverly Hills.................. 24
Jones, Margaret Holden, Los Angeles........... 29

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Kaufman, Joseph J., Beverly Hills.............. 34
Katz, Robert A., Los Angeles................... 29
Kieran, James, Oakland......................... 19
Kinsell, Laurence W., Oakland.................. 32
Kniseley, Ralph M., Castro Valley.............. 27
Konwaler, Benjamin E., Long Beach............ 13

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Lightface—Participants other than main speakers.

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Korbin, Wallace M., Los Angeles . . . 30
Krag, Daniel O., San Jose . . . 27
Kurze, Theodore, Los Angeles . . . 31

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Lauber, Donald J., Los Angeles . . . 20
Leamer, Bruce V., Los Angeles . . . 22
Lee, George Q., Oakland . . . 17
Lemon, Frank R., Loma Linda . . . 16
Levan, Norman E., Bakersfield . . . 21
Levy, Robert I., San Francisco . . . 32
Louie, Rose V., San Francisco . . . 33
Luikart, Ralph, II, Santa Barbara . . . 21

M

MacDonald, Frank A., Sacramento . . . 13
Macdonald, Ian, Los Angeles . . . 17
Madden, Sidney C., Los Angeles . . . 13
Mahoney, Jack L., Monterey . . . 22
Manning, Phil R., U.S.C. . . . 10
Marsh, Robert L. C.M.E. . . . 11
Maschmeyer, Joseph E., Los Angeles . . . 29
Matthis, Austin W., El Centro . . . 32
Mayers, Morton M., Los Angeles . . . 34
McCort, James T., San Jose . . . 33
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Mendel, Werner M., Norwalk . . . 29
Mellinkoff, Sherman M., U.C.L.A. . . . 12
Mikkelsen, William P., U.S.C. . . . 10
Miller, James N., Los Angeles . . . 21
Miller, Robert V., Jr., Beverly Hills . . . 24, 29
Molle, William E., U.C.L.A. . . . 12
Moore, Richard W., Santa Monica . . . 29
Moriarty, John D., Hollywood . . . 31
Moses, Paul J., San Francisco . . . 22
Mosier, H. D., Los Angeles . . . 28

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Nelson, Lawrence M., Santa Barbara . . . 21
Nelson, Thomas L., Eldridge . . . 32
Nemethi, Carl E., Los Angeles . . . 26
Neufeld, Alonzo J., C.M.E. . . . 11
New, William N., San Diego . . . 21
Newman, Henry W., San Francisco . . . 30
Nickel, Vernon L., C.M.E. . . . 11
Nyquist, Roy H., Long Beach . . . 24, 29

O

O'Loughlin, Bernard J., Los Angeles . . . 33

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Parran, Thomas, Pittsburgh, Pa. . . . 32
Pautler, Elmer E., Bakersfield . . . 27
Peha, Lewis J., Torrance . . . 33
Pender, John W., Palo Alto . . . 20, 34
Penrose, Fred, Los Angeles . . . 31
Perez, E. R., San Jose . . . 24
Perkins, Roy F., C.M.E. . . . 11
Perrow, Charles B., San Francisco . . . 32
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Peters, John R., Los Angeles . . . 20
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Prentiss, Robert J., San Diego . . . 20, 34
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Prout, Harry C., C.M.E. . . . 11

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Ravitch, Mark M., Johns Hopkins . . . 11, 12
Ravitch, Mark M., Baltimore . . . 13, 17
Ray, Bronson S., Cornell-N.Y. Hospital . . . 11
Ray, Bronson S., New York . . . 13, 17, 30
Redeker, Allan G., U.S.C. . . . 10
Reese, Edward P., Lynwood . . . 24, 29
Reynolds, Telfer B., U.S.C. . . . 10
Rhee, James L., Oakland . . . 20, 34
Ridley, Roger W., Riverside . . . 20
Rivin, Arthur U., Los Angeles . . . 16
Rosenman, Ray H., San Francisco . . . 32
Ross, Mathew, Los Angeles . . . 31
Ross, Steven B., San Francisco . . . 33
Roth, Arthur, Oakland . . . 28
Rowe, Albert, Jr., Oakland . . . 19
Rowe, Albert H., Oakland . . . 19
Rowe, Lyon, Los Angeles . . . 21
Rubin, David, Los Angeles . . . 24, 29
Ruskin, I. W., Los Angeles . . . 31
Russell, Edward Lee, Santa Ana . . . 32

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Samson, Paul C., Oakland . . . 13
Schmitz, Alfred, San Francisco . . . 33
Schreider, Jonas E., San Francisco . . . 21
Seletz, Emil, Beverly Hills . . . 30
Shean, Dudley N., San Jose . . . 27
Shroff, Phyllis, F., Los Angeles . . . 20
Shure, Norman, Los Angeles . . . 19
Small, Willard S., Pasadena . . . 19
Spishakoff, Nathan M., Torrance . . . 33
Stone, Robert S., San Francisco . . . 33
Summers, Lloyd F., Lynwood . . . 30
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Tallman, Frank F., U.C.L.A. . . . 12
Thygeson, Phillips, San Jose . . . 23
Toma, John J., Beverly Hills . . . 26
Treanor, Walter J., San Francisco . . . 24, 29

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Urist, Marshall R., Los Angeles . . . 26

V

Vogel, Philip J., C.M.E. . . . 11

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Wallerius, Raymond M., Sacramento . . . 26
Wareham, Ellsworth E., C.M.E. . . . 11
Weil, Max H., Duarte . . . 16
Will, Drake, Los Angeles . . . 32
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Woodruff, John H., Jr., Torrance . . . 33
Wright, Robert R., San Francisco . . . 27
Wright, Stanley W., Los Angeles . . . 32
Wright, Wayne, Oakland . . . 21
Wynder, Ernest L., New York City . . . 16

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Yamshon, Leonard J., Los Angeles . . . 24, 29

Z

Zach, Frank S., Los Angeles . . . 29
Zimmerman, Murray C., Whittier . . . 21
Zinn, Willard J., Los Angeles . . . 13
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Information

BADGES. It is important that badges be worn at all times. Admission to scientific meetings is by badge only.

COUNCIL. Frenchette Room. The first meeting of the Council will be held Saturday, April 26 at 9:30 a.m. Further meetings will be held each morning at 7:30 a.m.

DELEGATES. For a list of delegates, meeting times and places, and agenda, see pages 46 to 52.

EMERGENCY CALLS AND MESSAGES. Each physician should notify his own secretary regarding the *exact* section he plans to attend and the time of his attendance. It is up to the individual physician to keep his own office staff so informed. The Association will *attempt* to transmit messages to the individual physician.

In case of emergency, when the doctor cannot be located, the call will be referred to Emergency Call Service of the Los Angeles County Medical Association, DUnkirk 5-1581.

EXHIBITS. Technical Exhibits — Ballroom, Sunset Room and Boulevard Room, Casino Floor. See list, pages 38 to 45.

Scientific Exhibits—Ballroom, Casino Floor. See list on page 37.

Medical Motion Pictures will be shown in the Colonial Room.

You are urged to visit and attend all exhibits.

MEETING TIMES AND PLACES. See chart on page 9 for exact times and places of general and section meetings.

REGISTRATION. Registration and information desks are located in the Ballroom Foyer, Casino Floor. *All members, guests, and visitors are requested to register immediately on arrival.* There is no charge for registration, except for Postgraduate Courses. Registration desks are open Saturday through Wednesday. *Admission to the general and section sessions and exhibits areas is by badge only.*

QUALIFICATIONS/REQUIREMENTS FOR REGISTRATION. (a) All M.D.'s with credentials showing that they hold valid license to practice medicine. (Membership card in C.M.A.; county medical society/association or A.M.A. membership card.) (b) Medical students will be admitted upon presentation of credentials from their medical schools identifying them as medical students. (A membership card of the Student American Medical Association or letter from their dean's office.) (c) Medical secretaries will be admitted upon presentation of a letter from the physician-employer. (d) Pharmacist mates and other military personnel of a like grade will be admitted upon presentation of a letter requesting their admittance, written by their commanding officer. (e) Dentists (D.D.S.), doctors of veterinary medicine (D.V.M.), registered nurses (R.N.), student nurses, x-ray technicians, laboratory technicians, dietitians, allied public health personnel, and others will be admitted provided they have proper identification. (f) *All questions on admission will be passed upon by a member of the Committee on Registration who will be present at the desk.*

Other Meetings and Entertainment

• SUNDAY, APRIL 27

Woman's Auxiliary to the California Medical Association Reception—East and West Venetian rooms—6:00-8:00 p.m.—Honoring Mrs. Frank A. MacDonald, wife of the President of the C.M.A. All doctors and their wives are cordially invited.

C.M.A. Section on Orthopedics Luncheon—Dolphin Court, 12:15 p.m.

California Society of Allergy Luncheon—Lido Patio, Noon.

California Society of Allergy Reception and Dinner—Reception at 7:00 p.m., Lido Room; Dinner at 8:30 p.m., Cocoanut Grove.

• MONDAY, APRIL 28

Bureau of Medical Economics—Room 132, 10:00 a.m. to 4:00 p.m.

American Academy of Pediatrics, California Chapter—Meeting and dinner, West Venetian Room and Foyer, 7:00 p.m.

• TUESDAY, APRIL 29

PRESIDENT'S DINNER DANCE—Cocoanut Grove, 8:00 p.m. Formal dress optional. Tickets on sale in the Main Floor Lobby.

C.M.A. Past President's Lunch—Garden Room, 12:15 p.m.

Woman's Auxiliary Luncheon—Cocoanut Grove, 12:30 p.m.—Honoring Mrs. Leonard D. Offield and Mrs. Newell Jones; Members of the State Advisory Board; and Past State Auxiliary Presidents.

State Board of Health—East Venetian Room, 1:30 p.m.

• WEDNESDAY, APRIL 30

California Academy of Preventive Medicine—Reception and Dinner—Regency Room, 6:00 p.m.

SCIENTIFIC SESSIONS

	SUNDAY APRIL 27		MONDAY APRIL 28		TUESDAY APRIL 29		WEDNESDAY APRIL 30	
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
EMBASSY	**9:30 a.m.** **House of Delegates**		**9:00** **Postgraduate Course** C.M.E.	**2:00** **General Meeting**	**9:00** **Postgraduate Course** C.M.E.	**2:00** **General Meeting** **3:30** **Clinical-Pathological Conference**	**9:30 a.m.** **House of Delegates**	
EAST VENETIAN	**9:00** General Surgery	**2:00** Allergy					**9:00** **Postgraduate Course** C.M.E.	**2:00** Anesthesiology
WEST VENETIAN	**9:00** Radiology	**2:00** Radiology	**9:00** **Postgraduate Course** U.C.L.A.		**9:00** **Postgraduate Course** U.C.L.A.		**9:00** **Postgraduate Course** U.C.L.A.	**2:00** Urology
FRENCH	**9:00** Orthopedics	**2:00** Internal Medicine	**9:00** **Postgraduate Course** U.S.C.*		**9:00** **Postgraduate Course** U.S.C.		**9:00** Anesthesiology Urology	
GROVE LOUNGE	**9:00** Pathology and Bacteriology	**2:00** Physical Medicine					**9:00** Psychiatry and Neurology	
REGENCY	**9:00** Industrial Medicine and Surgery	**2:00** Eye	**9:00** Ear, Nose and Throat		**9:00** Pediatrics			
COLONIAL	**9:00** Dermatology and Syphilology	**2:00 to 5:30** **7:00 to 11:00** Medical Motion Pictures	**9:00** Industrial Medicine and Surgery Physical Medicine	**2:00 to 5:30** **7:00 to 11:00** Medical Motion Pictures	**9:00** Psychiatry and Neurology	**2:00 to 5:30** **7:00 to 11:00** Medical Motion Pictures	**9:00** Public Health	**2:00** Public Health
LOS ANGELES COUNTY HOSPITAL		**1:00* and 2:00** **Postgraduate Course*** U.S.C.						

*The U.S.C. Course will begin on SUNDAY afternoon at 2:00, Los Angeles County Hospital. Buses will leave the Ambassador Hotel, Wilshire entrance, at 1:00 p.m.

COUNCIL OF THE C.M.A. MEETS DAILY AT 7:30 A.M. IN THE FRENCHETTE ROOM

TECHNICAL EXHIBITS—Sunset Room, Ballroom, Boulevard Room, Casino Floor

SCIENTIFIC EXHIBITS—Boulevard Room

REFERENCE COMMITTEE:
No. 1—Monday and Tuesday............Dolphin Court
No. 2—Monday and Tuesday................Lido Room
No. 3—Monday and Tuesday............Grove Lounge
No. 4—Monday and Tuesday afternoon...............West Venetian Room
C.P.S.—Monday and Tuesday..............Rose Room

POSTGRADUATE COURSES

Presented by the California Medical Association in cooperation with the College of Medical Evangelists, the University of California at Los Angeles, and the University of Southern California

Fee: $25.00 for each course*

Out-of-State Faculty—Guests of the California Medical Association:

William A. Altemeier, M.D., Christian R. Holmes Professor of Surgery, University of Cincinnati College of Medicine, Cincinnati.

Mark M. Ravitch, M.D., Associate Professor of Surgery, Johns Hopkins University School of Medicine, Baltimore.

Charles S. Davidson, M.D., Associate Professor of Medicine, Harvard Medical School, Boston.

Bronson S. Ray, M.D., Professor of Clinical Surgery (Chief, Department of Neurosurgery), New York Hospital-Cornell University Medical College, New York City.

Liver Diseases

Program planned by the University of Southern California School of Medicine

Phil R. Manning, M.D., *Director Postgraduate Division*

Course Director: Telfer B. Reynolds, M.D.

APRIL 27, 28, and 29

Sunday, Monday and Tuesday

Los Angeles County General Hospital and Ambassador Hotel

Fee: $25.00. Course limited to 100 Registrants.

SUNDAY, APRIL 27

1:00 p.m.—*Chartered bus leaves Wilshire entrance of Ambassador Hotel to go to Los Angeles County General Hospital.*

2:00 p.m.—Los Angeles County General Hospital

SYMPOSIUM ON JAUNDICE

2:00— **Panel Discussion**

Liver Function Tests

Moderator: Telfer B. Reynolds, M.D.

Members of the Panel: Charles S. Davidson, M.D., Bernard J. Haverback, M.D. and Allan G. Redeker, M.D.

3:00— **Clinic on Jaundice**

Small groups will see and discuss interesting patients with the members of the faculty.

5:00—**Adjournment.**

MONDAY, APRIL 28

9:00 a.m.—French Room, Ambassador Hotel

9:00—**Viral Hepatitis**—Charles S. Davidson, M.D.

9:40—**Malignant Carcinoid Syndrome**—Bernard J. Haverback, M.D.

10:10—**Wilson's Disease: A Treatable Condition**—Telfer B. Reynolds, M.D.

10:40—**Recess.**

10:50—**Diagnostic Techniques Applicable to Liver Disease**

Splenoportography—William P. Mikkelsen, M.D.

Hepatic Vein Catheterization—Allan G. Redeker, M.D.

Liver Biopsy—Telfer B. Reynolds, M.D.

12:00—**Adjournment.**

TUESDAY, APRIL 29

9:00 a.m.—French Room, Ambassador Hotel

Symposium on Cirrhosis

9:00—**Alcohol vs. Nutrition in the Etiology of Cirrhosis**—Charles S. Davidson, M.D.

9:30—**Complications of Cirrhosis**

- 9:30—**Ascites**—Telfer B. Reynolds, M.D.
- 10:00—**Portal Hypertension**—William P. Mikkelsen, M.D., and Telfer B. Reynolds, M.D.
- 10:40—**Recess.**
- 10:50—**Hepatic Coma and Its Relationship to Ammonium Metabolism**—Charles S. Davidson, M.D.

12:00—**Adjournment.**

Instructional Staff:

California Medical Association Guest:

Charles S. Davidson, M.D., Associate Professor of Medicine, Harvard Medical School, Boston.

U.S.C. School of Medicine:

Herman M. Geller, M.D., Instructor in Medicine.

Bernard J. Haverback, M.D., Assistant Professor of Medicine.

Phil R. Manning, M.D., Assistant Professor of Medicine.

William P. Mikkelsen, M.D., Assistant Clinical Professor of Surgery.

Donald W. Petit, M.D., Associate Professor of Medicine.

Allan G. Redeker, M.D., Instructor in Medicine.

Telfer B. Reynolds, M.D., Associate Professor of Medicine.

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*Interns and Residents with proper identification will be registered without payment of the fee.

Management of Trauma

Program planned by the College of Medical Evangelists

Harold M. Walton, M.D., *Chairman, Graduate and Postgraduate Medicine*

APRIL 28, 29, and 30
Monday, Tuesday and Wednesday Mornings
9:00 a.m.-12:00 noon
Ambassador Hotel
Fee: $25.00

MONDAY, APRIL 28

9:00 a.m.—Embassy Room, Ambassador Hotel

Basic Science Applications to Trauma with Particular Attention to Shock and Burns

Chairman: Robert L. Marsh, M.D.

9:00—**Fluid and Electrolytes**—David B. Hinshaw, M.D.

9:15—**Hemorrhage**—Harry A. Davis, M.D.

9:30—**Vasomotor Responses**—Philip J. Vogel, M.D.

9:45—**Endocrines**—Roy F. Perkins, M.D.

10:00—**Ventilation**—Clarence R. Collier, M.D.

10:15—**Discussion and Summary**—Mark M. Ravitch, M.D.

10:35—**Recess.**

10:50— **Panel Discussion**

Moderator: Robert L. Marsh, M.D.

Members of the Panel: Mark M. Ravitch, M.D., Harry A. Davis, M.D., Clarence R. Collier, M.D., Roy F. Perkins, M.D., Philip J. Vogel, M.D., and David B. Hinshaw, M.D.

12:00—**Adjournment.**

TUESDAY, APRIL 29

9:00 a.m.—Embassy Room, Ambassador Hotel

Injuries to the Thorax and Abdomen

Chairman: Harry C. Prout, M.D.

9:00—**Injuries to the Thorax**—Ellsworth E. Wareham, M.D.

9:15—**Injuries to the Abdomen**—Harry C. Prout, M.D.

9:30—**Injuries to Blood Vessels**—Max R. Gaspar, M.D.

9:45—**Injuries to the Genitourinary System**—Roger W. Barnes, M.D.

10:00—**Management of Patients with Burns**—Clifford A. Barber, M.D.

10:15—**Discussion and Summary**—William A. Altemeier, M.D.

10:35—**Recess.**

10:50— **Panel Discussion**

Moderator: Harry C. Prout, M.D.

Members of the Panel: William A. Altemeier, M.D., Roger W. Barnes, M.D., Max R. Gaspar, M.D., Clifford A. Barber, M.D., Ellsworth E. Wareham, M.D.

12:00—**Adjournment.**

WEDNESDAY, APRIL 30

9:00 a.m.—East Venetian Room, Ambassador Hotel

Injuries to Nervous System, Face, Skeleto-Muscular Structures

Chairman: Alonzo J. Neufeld, M.D.

9:00—**Injuries to Facial Structures**—Leland R. House, M.D.

9:20—**Mechanism of Cerebral Injuries**—Cyril B. Courville, M.D.

9:40—**Treatment of Injuries to the Nervous System**—Bronson S. Ray, M.D.

10:00—**Injuries to Skeleto-Muscular Structures**—Vernon L. Nickel, M.D.

10:20—**Recess.**

10:40— **Panel Discussion**

Moderator: Alonzo J. Neufeld, M.D.

Members of the Panel: Bronson S. Ray, M.D., Cyril B. Courville, M.D., Leland R. House, M.D., and Vernon L. Nickel, M.D.

12:00—**Adjournment.**

Instructional Staff:

California Medical Association Guests:

William A. Altemeier, M.D., Christian R. Holmes Professor of Surgery, University of Cincinnati College of Medicine, Cincinnati.

Mark M. Ravitch, M.D., Associate Professor of Surgery, Johns Hopkins University School of Medicine, Baltimore.

Bronson S. Ray, M.D., Professor of Clinical Surgery (Chief, Department of Neurosurgery), New York Hospital-Cornell University Medical College, New York City.

College of Medical Evangelists:

Clifford A. Barber, M.D., Assistant Clinical Professor of Surgery.

Roger W. Barnes, M.D., Professor of Urology.

Clarence R. Collier, M.D., Associate Professor of Physiology.

Cyril B. Courville, M.D., Professor of Neurology.

Harry A. Davis, M.D., Clinical Professor of Surgery.

Max R. Gaspar, M.D., Assistant Professor of Surgery.

David B. Hinshaw, M.D., Assistant Clinical Professor of Surgery.

Leland R. House, M.D., Professor of Otolaryngology.

Robert L. Marsh, M.D., Assistant Clinical Professor of Surgery.

Alonzo J. Neufeld, M.D., Associate Professor of Orthopedic Surgery.

Vernon L. Nickel, M.D., Assistant Professor of Orthopedic Surgery.

Roy F. Perkins, M.D., Assistant Professor of Medicine.

Harry C. Prout, M.D., Assistant Clinical Professor of Surgery.

Philip J. Vogel, M.D., Clinical Professor of Neurological Surgery.

Ellsworth E. Wareham, M.D., Assistant Clinical Professor of Surgery.

Abdominal Pain

Program planned by the University of California at Los Angeles School of Medicine

THOMAS H. STERNBERG, M.D., *Assistant Dean for Postgraduate Medical Education*
Course Chairman: SHERMAN M. MELLINKOFF, M.D.

APRIL 28, 29, and 30
Monday, Tuesday and Wednesday Mornings
9:00 a.m.-12:00 noon
Ambassador Hotel
Fee: $25.00

MONDAY, APRIL 28

9:00 a.m.—West Venetian Room

9:00—Painful Medical Diseases of the Abdomen—William E. Molle, M.D.

9:45—Recess.

10:00—Psychiatric Aspects of Abdominal Pain—Frank F. Tallman, M.D.

10:45— **Panel Discussion**

Members of the Panel: Sherman M. Mellinkoff, M.D., William E. Molle, M.D., and Frank F. Tallman, M.D.

11:30—Questions.

12:00—Adjournment.

TUESDAY, APRIL 29

9:00 a.m.—West Venetian Room, Ambassador Hotel

9:00—Surgical Causes of Abdominal Pain—Mark M. Ravitch, M.D.

9:45—Recess.

10:00—Retroperitoneal Causes of Abdominal Pain—Chester C. Winter, M.D.

10:45— **Panel Discussion**

Members of the Panel: Sherman M. Mellinkoff, M.D., Mark M. Ravitch, M.D., and Chester C. Winter, M.D.

11:30—Questions.

12:00—Adjournment.

WEDNESDAY, APRIL 30

9:00 a.m.—West Venetian Room, Ambassador Hotel

9:00—Systemic Causes of Abdominal Pain—Sherman M. Mellinkoff, M.D.

10:30—Recess.

10:45— **Panel Discussion**

Differential Diagnosis of Abdominal Pain

Members of the Panel: Sherman M. Mellinkoff, M.D., William E. Molle, M.D., Mark M. Ravitch, M.D., Frank F. Tallman, M.D., and Chester C. Winter, M.D.

11:30—Questions.

12:00—Adjournment.

Instructional Staff:

California Medical Association Guest:

Mark M. Ravitch, M.D., Associate Professor of Surgery, Johns Hopkins University School of Medicine, Baltimore.

U.C.L.A. School of Medicine:

Sherman M. Mellinkoff, M.D., Associate Professor of Medicine.

William E. Molle, M.D., Clinical Instructor in Medicine.

Frank F. Tallman, M.D., Professor of Psychiatry.

Chester C. Winter, M.D., Instructor in Surgery/Urology.

APPLICATION FORM

POSTGRADUATE ACTIVITIES
CALIFORNIA MEDICAL ASSOCIATION
2975 Wilshire Boulevard, Los Angeles 5, Calif.

Enclosed please find my check for $25.00, made payable to *California Medical Association.* I plan to attend the Postgraduate Course.. in Los Angeles during the California Medical Association annual session.

Name..

Address..

☐ I am in General Practice
☐ I limit my practice to..

Medical school attended..

Year of graduation...

Interns and Residents are invited to attend free of charge

SCIENTIFIC SESSIONS

General Meetings

First General Meeting

MONDAY, APRIL 28

1:30—Embassy Room

1:30—Special Motion Picture—Acute Atomic Radiation—Biomedical Program, Operation-PLUMBOB, Nevada Test Site, 1957—Gerald M. McDonnel, Lt. Colonel (MC), USA, Washington, D.C.

2:15—Address of Welcome—Frank A. MacDonald, M.D., President of the California Medical Association.

2:25— **Symposium**

Inflammatory Diseases of the Colon

Chairman: W. Kenneth Jennings, M.D., Santa Barbara

2:30—Diverticulitis—Leon Goldman, M.D., San Francisco.

2:45—Ulcerative Colitis—Charles S. Davidson, M.D., Boston, by invitation.

3:00—Micrococcic Enterocolitis—William A. Altemeier, M.D., Cincinnati, by invitation.

3:15—Round-Table Discussion, Questions from the floor.

Second General Meeting

TUESDAY, APRIL 29

2:00—Embassy Room

Chairman: Donald W. Petit, M.D., Pasadena

2:00— **Panel Discussion**

Congenital Heart Disease

Program arranged by the cooperation of the Sections on General Surgery, Internal Medicine and Pediatrics.

Moderator: Forrest H. Adams, M.D., Los Angeles

Members of the Panel: Herbert L. Abrams, M.D., San Francisco; Mark Ravitch, M.D., Baltimore, by invitation; Paul C. Samson, M.D., Oakland, and Willard J. Zinn, M.D., Los Angeles.

3:20—Recess.

3:30— **Clinical-Pathological Conference**

Moderator: Donald W. Petit, M.D., Pasadena

3:30—Case No. 1—Pathologist: Benjamin E. Konwaler, M.D., Long Beach, by invitation; Discussant: Richard S. Cosby, M.D., Pasadena.

4:15—Case No. 2—Pathologist: Sidney C. Madden, M.D., Los Angeles; Discussant: Bronson S. Ray, M.D., New York, by invitation.

Following are the cases to be presented at the Clinical-Pathological Conference

3:30—CASE No. 1:

The patient's first admission to the hospital was from November 24, 1950 to January 8, 1951. He was 31 years old at the time and entered because of scanty urine and swelling of the face, body and legs for one week. Prior to entry, he had consulted his doctor who told him his kidneys were bad and gave him a "water shot" which caused a good diuresis. However, the edema returned, and one day prior to admission, a pruritic rash developed on the patient's head. There was no history of an antecedent infection and the past history was nonrevealing.

Physical Examination—First admission: Physical examination revealed a well developed, well nourished, obese white male with marked swelling of the face and puffiness of the eyes. His weight was 190 pounds and height 63½ inches. Blood pressure on admission was 134/84, temperature 100.8, and pulse rate 96. An examination of the lungs revealed basal rales bilaterally with decrease in breath sounds and dullness on percussion. The heart sounds were faint with no audible murmurs. P-2 was greater than A-2. A small papular rash was present over the scalp and the lower legs.

Laboratory data revealed a white count ranging from 7,000 to 11,900 with a normal differential, red count of 5.4 and 5.86 million RBC and 16-17.3 grams of hemoglobin. The sedimentation rate was 1. Urinalyses showed a trace to 1+ albumin with occasional WBC's. The urine pH varied from 5-6; serum albumin 3.4, globulin 1.5, BUN 11 mgs. per cent; CO_2 33.9 mEq/L, calcium 5 mEq, chlorides 98 mEq, and total base 150 mEq. Urea clearance 74 per cent of normal. EKG's were compatible with right ventricular hypertrophy. X-rays of the chest were reported as cardiac enlargement compatible with mitral disease due to a rheumatic heart or a Lutembacher complex. Fluoroscopy revealed enlargement of all chambers.

Therapy during hospitalization consisted of bed rest, diuretics and a low salt diet resulting in almost complete loss of the edema. The venous pressure prior to treatment was 260 mm. and the circulation time 21 seconds.

The patient was discharged on January 8, 1951 with a diagnosis of heart disease of undetermined etiology.

The patient's second admission to the hospital was from June 13, 1953 to August 11, 1953 because of persistent edema, swelling of the abdomen, and shortness of breath. Physical examination revealed the patient to be cyanotic but in no acute distress. The blood pressure was 120/80 and pulse rate 100. Rales were present in the lung base and cardiac enlargement was noted. The second pulmonic sound was accentuated as was the mitral second sound. No murmurs were audible. Considerable ascites was present and the liver was down 3 fingers. There was 3+ edema from the knees down.

Laboratory examinations revealed the hemoglobin to be 20.4 gm., the hematocrit 75. The red count was 6.46 million. The white count was normal. Chest films showed cardiac enlargement with a mitral configuration of the heart. The pulmonary vascular markings were prominent. EKG again showed R.V.H. Pulmonary function studies were as follows:

Vital capacity: 2,986 cc. (estimated normal 4,400 cc.). Inspiratory reserve: 1,410 cc. Resting tidal volume: 580 cc. Expiratory reserve: 995 cc. Maximal breathing capacity: 98.72 L/min. (estimated normal 143.2 L/min.). Breath holding time after moderate inspiration: 31 seconds.

Arterial blood studies:

	Basal	After O_2 IPPB—5 min.
Oxygen content	20.04	26.83 vol. per cent
Oxygen capacity	27.47	27.50 vol. per cent
Oxygen saturation	73.3	98.5 per cent

The patient again diuresed on a low salt diet, diuretics and bed rest. He was digitalized because of persistent tachycardia with slowing of his pulse. He was presented to Dr. Griffith on July 1 who felt the patient may have an Eisenmenger complex. He was catheterized on July 6 and found to have a high pressure in the right ventricle. The values obtained revealed PAP of 58/38. RVP 27/7 and 56/10, and RAP of 9. He was discharged on August 11, 1953 on digitalis therapy with no change in his diagnosis.

During his third admission beginning on June 6, 1954 for similar complaints, polycythemia was again noted with a normal white count and one platelet count of 160,000. On August 25, 1954 a plasma volume determination was 51 ml./kg. and blood volume was 165 ml./kg. During this admission, a loud harsh systolic murmur was heard along the left sternal border at the second and third intercostal spaces. Ml. was described as loud and P2 greater than A2. The murmur disappeared as the patient improved.

Pulmonary function studies on June 24, 1954 revealed: Vital capacity: 2,074—estimated normal 4,650. Inspiratory capacity: 1,866. Tidal volume: 290. Expiratory residual: 207. Maximum breathing capacity 50.5 l/min.—normal 150. Residual air 925. Breath holding—31 seconds.

Arterial saturation studies done on June 15, 1954 revealed the following: Patient's basal 39.8 per cent. After 1.5 minutes exercise 61.2 per cent. After O_2 3 minutes 93 per cent. Five minutes after O_2 69.75 per cent.

A gingival biopsy on August 12, 1954 was negative for amyloidosis. Angiocardiography on August 5 revealed a distended superior vena cava and a large right auricle and ventricle. The pulmonary arteries were quite large, particularly the right. The left side was not well demonstrated but suggested a large left atrium.

Cardiac catheterization on September 9, 1954 reported as P.A. 79/49 and 64/35, RV 41/12.

The patient responded slowly but adequately to a cardiac regimen of digitalis, bed rest and diuretics. The final impression at that time was that the patient had primary pulmonary pathology. Shunts, a diffusion defect, primary pulmonary hypertension, and Hamman Rich syndrome were considered. The patient was discharged on October 9, 1954.

On January 19, 1955, the patient was again admitted because of marked edema of the legs and abdomen, a 30 pounds weight gain, and exertional dyspnea. It is to be noted that the intervals of subjective good health were becoming shorter. X-rays during the admission showed increasing cardiac enlargement, particularly of the right ventricle and EKG's showed marked R.V.H. with strain. A lung biopsy on April 19, 1955 was reported as normal. EEG's revealed a diffuse slow dysrhythmia which could not be attributed to hypoventilation. Electrophoretic pattern and hemoglobin typing were normal.

A Fishberg concentration test was as follows: Specimen No. 1, 145 cc. with specific gravity of 1.010. Specimen No. 2, 165 cc. with specific gravity of 1.011. Specimen No. 3, 130 cc. with specific gravity of 1.008. Urea clearance was 88 per cent of average maximum with a BUN of 14 mgm. per cent. A P.S.P. test was 45 per cent excretion in 15 minutes.

On March 15, 1955, the patient was seen in consultation by Dr. H. L. Motley who did extensive pulmonary function studies. His findings revealed normal lung volume determinations. The arterial blood measurements and pulmonary ventilation measurements revealed a gross inadequacy of alveolar ventilation both at rest and with step-up exercises. It was also demonstrated with voluntary deep fast breathing that the arterial blood oxygen saturation was increased to normal. This was an interesting observation since it was noted by Dr. Rappaport and others that the patient never seemed to take deep breaths; in fact, it appeared as if he were not breathing.

As during previous admissions, the patient responded well to bed rest, low sodium diet, digitalis, and diuretics. He was discharged on June 3, 1955 with the diagnosis of pulmonary hypertension with cor pulmonale and hypoventilation of pulmonary alveoli of undetermined cause.

The patient's fifth and final admission was on July 30, 1956. The patient did well until two months prior to admission when he began noting ankle swelling and shortness of breath which did not disappear with diuretics. On the day before admission, he noted a squeezing pain in the chest which radiated to the neck and lasted 1½ to 2 minutes. It returned for a short while five or six hours later. Physical findings revealed the patient to be moderately cyanotic but with slow shallow respirations. Crepitant rales were heard throughout the lungs. A Grade II systolic murmur was heard at the apex, and a precordial friction rub was present. The blood pressure was 110/80, and the pulse rate 96. The liver was enlarged, but no ascites was present. There was cyanosis and 2+ pitting edema of the lower extremities.

Laboratory findings again revealed polycythemia. Urine examination revealed 1+ albumin and a specific gravity of 1.010. The BUN was 32 mgs. per cent, an LE prep was negative. The BUN rose ten days after admission to 102 mgs. per cent. This rise was associated with hypotension and anuria for two days. Chest x-rays showed a huge heart and on fluoroscopy, no pulsations were seen. The patient failed to respond to diuretics and a phlebotomy. A rocking bed, intermittent positive pressure O_2, and a respirator were ineffectual in improving the patient's respiratory difficulty. Large amounts of levophed were necessary to maintain his blood pressure. He continued to deteriorate and expired at 6:00 p.m. on August 8, 1956.

4:15—CASE No. 2:

H.B., a 59-year-old caucasian executive was apparently well until seven days before admission to the hospital when, while playing bridge, it was noted that he could not speak coherently. He had worked until the previous day and had noted only vague headaches that day. After the onset of the speech difficulty, he had intermittent left frontal temporal headaches; these became progressively worse and required opiates for relief. His clumsiness of speech increased markedly about two days prior to admission. His physician gave him dicumerol and niacin, and followed this treatment with the aid of serial prothrombin times.

In his past history, a cervical disk syndrome in 1946 was treated apparently successfully with neck traction. In 1951 he showed intermittent epigastric pain and x-ray evidence of a duodenal ulcer, asymptomatic since 1951. In July of 1957 he suffered an episode called "flu." This was followed by painful, swollen, purulent skin lesions involving the right ear and adjacent region and was diagnosed "shingles." This responded well to medical treatment but was followed by a partial loss of hearing in the right ear. No personality change had been noted although the wife had found him somewhat vague in response to questions during recent months but attributed this to preoccupation with problems at work. There was no history of hypertension, cardiovascular disease, or head trauma. The family history was one of longevity.

Upon hospital admission, the patient was fairly alert but it was impossible to determine his orientation. He was able to respond with a simple "yes" or "no" correctly to simple questions and his enunciation was normal, but he was aphasic in the recollection of names of simple objects. When he tried to converse, the phrases were completely garbled. There was a definite right homonymous hemianopsia. The fundi showed an early left papilledema and Grade II arteriosclerotic changes. The gag and right scrotal reflexes were absent, the plantar reflex was extension on the right and unresponsive on the left. There was clumsiness and incoordination of movement to a simple command. Definite weakness of the right upper extremity was found. The temperature was normal, the pulse 60 and the blood pressure in the right arm 170/100, and in the left, 160/80. Minimal peripheral evidence of atherosclerosis was found. There were good pulsations in the extremities and both carotid arteries.

The hemoglobin was 16.3 gm., the hematocrit 49 per cent, the white blood cell count 13,350, with a differential of neutrophils 78 per cent, lymphocytes 14 per cent, monocytes 8 per cent, and normal platelets. The prothrombin time was less than 10 per cent of normal, and the patient was promptly given intravenous vitamin K_1 oxide 50 mg. The following morning prothrombin time had risen to 79 per cent, and he was given another 50 mg. of vitamin K_1 oxide. Skull x-ray films showed a shift of the pineal to the right, a deepening of the sella turcica consistent with increased intracranial pressure, and haziness of the right frontal and maxillary sinuses suggestive of sinusitis. The electroencephalogram showed a great deal of random moderate-to-high potential slow 5-7 cps. activity, and a difference between hemispheres with higher potential slow 1-3 cps. waves appearing primarily over the left frontal and temporal central regions.

During the night of admission, the patient's condition deteriorated rather rapidly so that the following morning he could be aroused only upon stimulation. A right central facial weakness appeared, a strongly positive right Babinski, and an increased weakness of the right upper extremity. A cerebral arteriogram gave evidence of a space-occupying lesion in the left parieto-occipital region. About noontime he was taken to the operating room. A left temporal bone flap was turned and the dura found moderately tight. After diagnostic and treatment procedures, he was returned to the ward in good condition. Because of some difficulty in controlling bleeding during surgery, another 50 mg. of vitamin K_1 oxide was administered and prothrombin time at the completion of surgery was 69 per cent of normal. His postoperative course was a rapidly downhill one associated with dilated and fixed pupils, Cheyne-Stokes breathing, fluid in the tracheobronchial tree and frequent episodes of decerebrate rigidity. He expired one day following surgery.

PRESIDENT'S DINNER DANCE

TUESDAY, APRIL 29

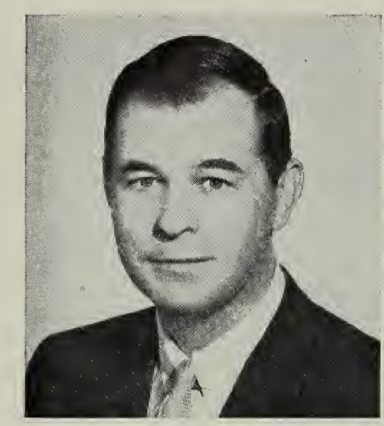
Cocoanut Grove, Ambassador Hotel, 8:00 p.m.

Formal dress optional

Tickets will be on sale in the Main Lobby

INTERNAL MEDICINE

Chairman....................Donald W. Petit, M.D., Pasadena
Secretary............... Allen T. Hinman, M.D., San Francisco
Assistant Secretary..........Edward Shapiro, M.D., Beverly Hills



DONALD W. PETIT
Chairman

ALLEN T. HINMAN
Secretary

SUNDAY, APRIL 27

2:00—French Room

2:00—Triamcinolone in the Treatment of Systemic Lupus Erythematosus—Edmund L. Dubois, M.D., Beverly Hills.

2:20—Systolic Murmurs Along the Left Sternal Border—Ronald Sylvester, M.D., Los Angeles, by invitation; and Varner J. Johns, M.D., Los Angeles.

2:35—The Occurrence of Respiratory Cancer and Coronary Artery Disease Among Seventh Day Adventists: A Preliminary Report—Ernest L. Wynder, M.D., New York City, by invitation; and Frank R. Lemon, M.D., Loma Linda.

2:55—Intermission.

3:05—Business Meeting and Election of Officers.

3:15—Chairman's Address: Carcinoma of the Thyroid in the Young—Donald W. Petit, M.D., Pasadena.

3:45—Corn Oil, Cholesterol and Coronaries—Arthur U. Rivin, M.D., Los Angeles.

4:05—Treatment of Cirrhosis of the Liver and Its Complications—Charles S. Davidson, M.D., Boston, by invitation.

4:35—Flavonoid Therapy in Diabetic Retinopathy—Casimir A. Domz, M.D., Paul M. Brickley, M.D., and Byron L. Gifford, M.D., Santa Barbara.

4:50—Clinical Experience with Metaraminol in the Treatment of Shock—Max H. Weil, M.D., Duarte, by invitation.

TWO GENERAL MEETINGS

MONDAY, APRIL 28, and TUESDAY, APRIL 29

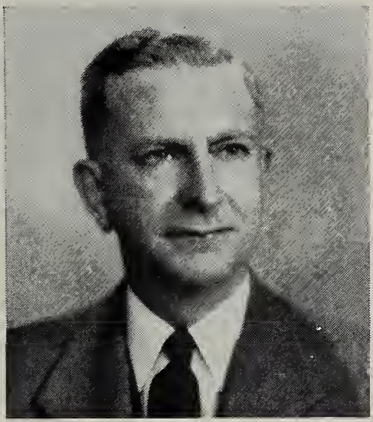
Each Afternoon—2 to 5 p.m.

Embassy Room, Ambassador Hotel

GENERAL SURGERY

Chairman............W. Kenneth Jennings, M.D., Santa Barbara
Secretary...................Edwin G. Clausen, M.D., Oakland
Assistant Secretary........William F. Pollock, M.D., Santa Monica

W. KENNETH JENNINGS
Chairman



EDWIN G. CLAUSEN
Secretary

SUNDAY, APRIL 27

9:00—East Venetian Room

9:00—**Diagnostic Abdominal Aspiration in Acute Abdominal Conditions**—George Q. Lee, M.D., Oakland.

9:20—**Unusual Tumors of the Gastrointestinal Tract**—Robert DeRiemer, M.D., by invitation; Chauncey D. Buster, M.D., by invitation; Jackson T. Crane, M.D., and Leon Goldman, M.D., all from San Francisco.

9:40—**Hypophysectomy in the Treatment of Advanced Cancer of the Breast**—Bronson S. Ray, M.D., New York City, by invitation.

10:10—**Hirschsprung's Disease and Pseudo-Hirschsprung's Disease**—Mark M. Ravitch, M.D., Baltimore, by invitation.

10:40—**Burn Mortality at the San Francisco City and County Hospital, 1943-1956**—Albert G. Clark, M.D., and J. Harold Hanson, M.D., San Francisco.

11:00—**Melanoma—Success or Failure**—Lewis W. Guiss, M.D., and Ian Macdonald, M.D., Los Angeles.

11:20—**Changing Aspects of Antibiotic Therapy in Surgery**—William A. Altemeier, M.D., Cincinnati, by invitation.

11:50—**Business Meeting and Election of Officers.**

MONDAY, APRIL 28

1:30—Embassy Room

First General Meeting

Symposium

Inflammatory Diseases of the Colon

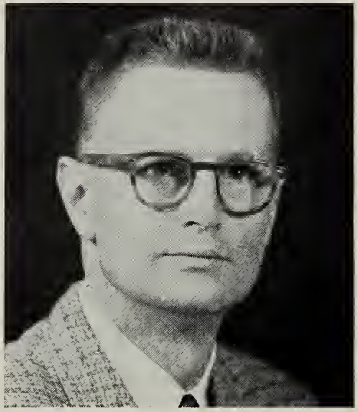
Meeting Arranged by the Section on General Surgery

For Program, see General Meetings

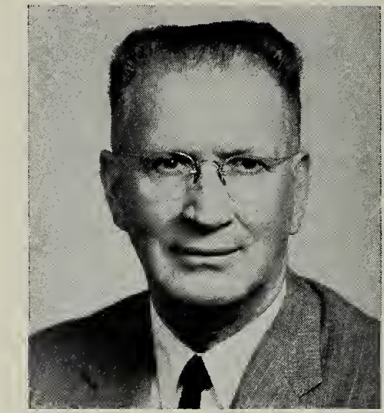
VISIT THE TECHNICAL AND SCIENTIFIC EXHIBITS

GENERAL PRACTICE

Chairman................Thomas N. Elmendorf, M.D., Willows
Secretary................Howard E. Horner, M.D., Los Angeles
Assistant Secretary................James E. Eley, M.D., Eureka



THOMAS N. ELMENDORF
Chairman



HOWARD E. HORNER
Secretary

MONDAY, APRIL 28

Noon—Embassy Room

12:00—**Business Meeting and Election of Officers**

The Section on General Practice will not conduct a scientific program in order not to conflict with the new Postgraduate Education Courses and the General Meetings which the section helped to arrange. A business meeting for the election of officers and preliminary planning for the 1959 scientific program of the General Practice Section will be held at noon, Monday, April 28, in the Embassy Room.

For curricula of the Postgraduate Courses, see pages 10 to 12.

For program of General Meetings, see pages 13 to 15.

EMERGENCY CALLS AND MESSAGES

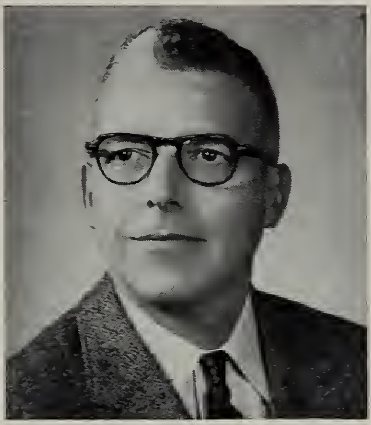
Each physician should notify his own secretary regarding the *exact* section he plans to attend and the time of his attendance. It is up to the individual physician to keep his own office staff so informed. The Association will *attempt* to transmit messages to the individual physician.

In case of emergency, when the doctor cannot be located, the call will be referred to Emergency Call Service of the Los Angeles County Medical Association, DUnkirk 5-1581.

ALLERGY

Chairman....................Willard S. Small, M.D., Pasadena
Vice-Chairman............William J. Kerr, Jr., M.D., San Rafael
Secretary.....................Albert Rowe, Jr., M.D., Oakland

WILLARD S. SMALL
Chairman



ALBERT ROWE, JR.
Secretary

SUNDAY, APRIL 27

Noon—Lido Patio

12:00—Luncheon and Business Meeting—Sponsored jointly by the Section on Allergy and the California Society of Allergy.

2:00—East Venetian Room

2:00—Unusual Manifestations of Pollen Allergy—Albert Rowe, Jr., M.D., and Albert H. Rowe, M.D., Oakland.

2:15—Marked Change in Allergic Sensitivity: Concomitant Psychological Factors—Case Presentations—Elinor B. Harvey, M.D., and Percy H. Jennings, Jr., M.D., Berkeley.

2:30—Office Evaluation of Pulmonary Function—James Kieran, M.D., Oakland.

3:15—Recess.

3:30— **Panel Discussion**

Specific Treatment of Inhalant Allergic Disease

Moderator: Willard S. Small, M.D., Pasadena

Members of the Panel: George F. Harsh, M.D., San Diego; Norman Shure, M.D., Los Angeles.

1. Testing Techniques.
2. The Allergen Used in Treatment.
3. The Specific Treatment Schedule.
4. Nonspecific Therapeutic Measures.

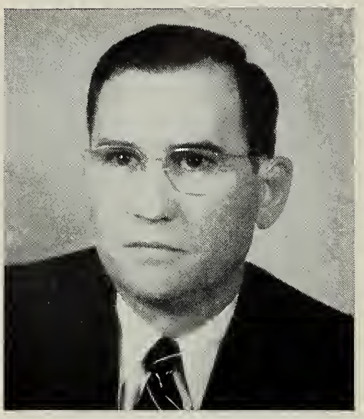
4:30—Chairman's Address—Willard S. Small, M.D., Pasadena.

REGISTRATION

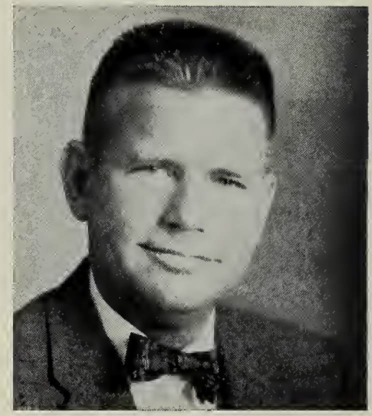
Registration and information desks are located in the Ballroom Foyer, Casino Floor. *All members, guests, and visitors are requested to register immediately on arrival.* There is no charge for registration except for Postgraduate Courses. Registration desks are open Saturday through Wednesday. *Admission to the general and section sessions and exhibit areas is by badge only.*

ANESTHESIOLOGY

Chairman..................Howard S. Downs, M.D., Glendale
Secretary................John S. Hattox, Jr., M.D., San Diego
Assistant Secretary..........Charles D. Anderson, M.D., Oakland



HOWARD S. DOWNS
Chairman



JOHN S. HATTOX, JR.
Secretary

WEDNESDAY, APRIL 30

10:00—French Room

Joint Meeting with Section on Urology

9:00—Urologic Papers, for Program, see Section on Urology.

10:00— **Panel Discussion**

Anesthesia in the Aged and Very Young with Particular Reference to Urologic Surgery

Moderator: John W. Pender, M.D., Anesthesiologist, Palo Alto

Members of the Panel:

- Anesthesiologists: John W. Pender, M.D., Palo Alto, and James L. Rhee, M.D., Oakland.
- Urologist: Robert J. Prentiss, M.D., San Diego.
- Cardiologist: David B. Carmichael, M.D., La Jolla.
- Pediatrician: R. Bruce Jessup, M.D., San Francisco.

WEDNESDAY, APRIL 30

1:30—East Venetian Room

1:30—Business Meeting of the California Society of Anesthesiologists.

2:00—Monitoring the Heart—Donald J. Lauber, M.D., Los Angeles.

2:20—Problems in Ventilation in the Immediate Postoperative Period—N. P. Guadagni, M.D., San Francisco.

2:40—A Comparison of Thiamylal Sodium (Surital®) and Methitural Sodium (Neraval®) Rectally Administered to Children—Charles H. Gallup, M.D., Oakland.

3:00—Intermission.

3:10—Recent Developments in the Economics of Anesthesiology—Joseph H. Failing, M.D., Los Angeles.

3:30—Analysis of Operating Room Deaths Over a Ten-Year Period—Phyllis F. Shroff, M.D., Los Angeles, by invitation.

3:50—Business Meeting and Election of Officers.

4:00— **Panel Discussion**

Tranquilizers and Their Relationship to Anesthesia

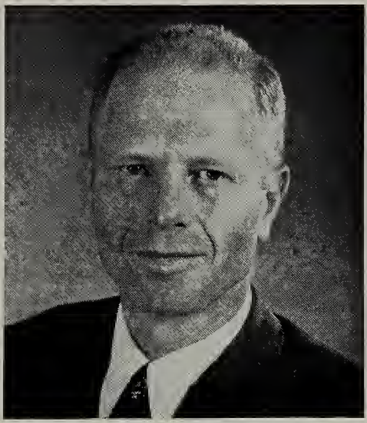
Moderator: John B. Dillon, M.D., Los Angeles

Members of the Panel:

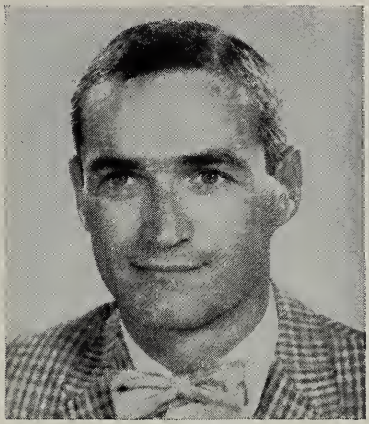
- Anesthesiologists: John B. Dillon, M.D., Los Angeles, and Roger W. Ridley, M.D., Riverside.
- Internist: M. S. Bourdeau, M.D., Glendale.
- Psychiatrist: John R. Peters, M.D., Los Angeles.

DERMATOLOGY AND SYPHILOLOGY

Chairman...........Lawrence M. Nelson, M.D., Santa Barbara
Secretary................Daniel J. Perry, M.D., Santa Monica
Assistant Secretary............Herbert L. Joseph, M.D., Vallejo



LAWRENCE M. NELSON
Chairman



DANIEL J. PERRY
Secretary

SUNDAY, APRIL 27

9:00—Colonial Room

9:00—**The Prevalence of Brucella Agglutinins in the Serum of Patients with a Biologic False Positive Test for Syphilis**—Charles M. Carpenter, M.D., Los Angeles; and James N. Miller, Ph.D., and Ruth Boak, M.D., Los Angeles, by invitation.

Discussion: Edwin T. Wright, M.D., Los Angeles.

9:20—**Chairman's Address: Self-Healing Pseudo Cancers of the Skin**—Lawrence M. Nelson, M.D., Santa Barbara.

9:40—**Granuloma Pyogenicum: Differential Diagnosis**—Lyon Rowe, M.D., Los Angeles.

Discussion: S. William Becker, M.D., Long Beach.

10:00—**The Alopecias**—William S. New, Capt. (MC) U.S.N., San Diego, by invitation.

Discussion: Ben A. Newman, M.D., Beverly Hills.

10:20—**Recess.**

10:30—

Symposium

Grenz Ray Therapy in Dermatology

Moderator: Norman E. Levan, M.D., Bakersfield

10:30—**Introduction**—Norman E. Levan, M.D., Bakersfield.

10:35—**History of Development of Grenz Rays**—Ralph Luikart II, M.D., Santa Barbara.

10:45—**Physics of Grenz Rays**—Jonas E. Schreider, M.D., San Francisco.

11:00—**Advantages of Grenz Ray Therapy**—Murray C. Zimmerman, M.D., Whittier.

11:15—**Disadvantages of Grenz Ray Therapy**—Wayne Wright, M.D., San Francisco.

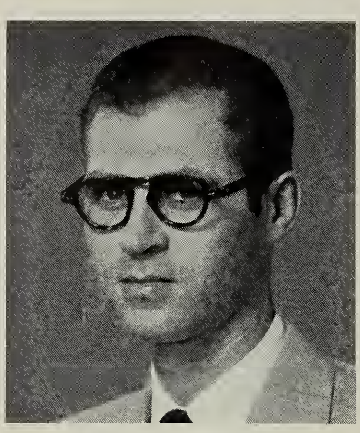
11:30—**Questions from the floor.**

11:50—**Business Meeting and Election of Officers.**

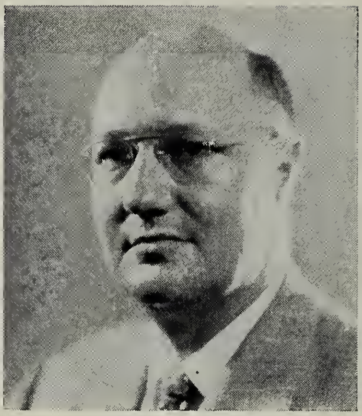
BRING PROPER IDENTIFICATION FOR REGISTRATION

EAR, NOSE AND THROAT

Chairman..............Seymour J. Brockman, M.D., Los Angeles
Secretary.................Walter E. Heck, M.D., San Francisco
Assistant Secretary..........Ewing Seligman, M.D., Beverly Hills



SEYMOUR J. BROCKMAN
Chairman



WALTER E. HECK
Secretary

MONDAY, APRIL 28

9:00—Regency Room

9:00—**The Endonasal Approach to Nasopharyngeal Tumors**—Joel J. Pressman, M.D., Los Angeles.
Discussion.

9:30—**Changing Aspects of Surgery to the Middle Ear and Mastoid**—O. E. Hallberg, M.D., Rochester, Minnesota, by invitation.
Discussion.

10:00—**Interpretation of Dizziness Related to the Labyrinth**—Jack L. Mahoney, M.D., Monterey.
Discussion.

10:30—**Aviation and the Otolaryngologist**—Bruce V. Leamer, M.D., Los Angeles.
Discussion.

11:00—**Pathology and Therapy of the Singing Voice**—Paul J. Moses, M.D., San Francisco.
Discussion.

11:30—**Delayed Skin-Grafting of the Mastoid Cavity**—William F. House, M.D., Los Angeles.
Discussion.

12:00—**Business Meeting and Election of Officers.**

EMERGENCY CALLS AND MESSAGES

Each physician should notify his own secretary regarding the *exact* section he plans to attend and the time of his attendance. It is up to the individual physician to keep his own office staff so informed. The Association will *attempt* to transmit messages to the individual physician.

In case of emergency, when the doctor cannot be located, the call will be referred to Emergency Call Service of the Los Angeles County Medical Association, DUnkirk 5-1581.

EYE

Chairman............Harold B. Alexander, M.D., Santa Barbara
Secretary...................O. Ralph Tanner, M.D., Palo Alto
Assistant Secretary..........A. Ray Irvine, Jr., M.D., Los Angeles

HAROLD B. ALEXANDER
Chairman

O. RALPH TANNER
Secretary

SUNDAY, APRIL 27

2:00—Regency Room

2:00—**Corneal Tumors—A Clinical-Pathological Discussion**—Dahar Cury, Jr., Los Angeles.

2:30—**The Pathology of Corneal Dystrophies**—John H. Bickerton, Jr., M.D., La Jolla, by invitation.

3:00—**Observations on Epithelial Keratitis**—Phillips Thygeson, M.D., San Jose.

3:30—**The Surgical Treatment of Herpetic Keratitis**—Max Fine, M.D., San Francisco.

4:00— **Panel Discussion**

Corneal Disease—Diagnosis and Treatment

Moderator: Wendell C. Irvine, M.D., Los Angeles

Members of the Panel: Dahar Cury, Jr., M.D., Los Angeles; John H. Bickerton, Jr., M.D., La Jolla; Phillips Thygeson, M.D., San Jose; and Max Fine, M.D., San Francisco.

4:30—**Business Meeting and Election of Officers.**

RECEPTION
WOMAN'S AUXILIARY TO THE C.M.A.

SUNDAY, APRIL 27, 6 to 8 P.M.

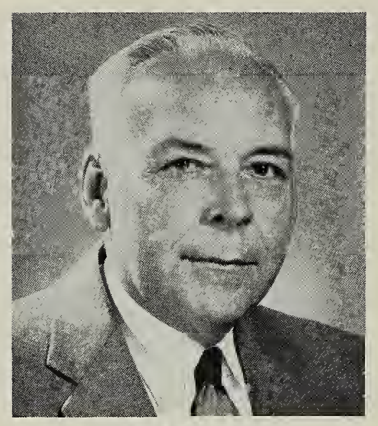
West Venetian Room

Honoring Mrs. Frank A. MacDonald

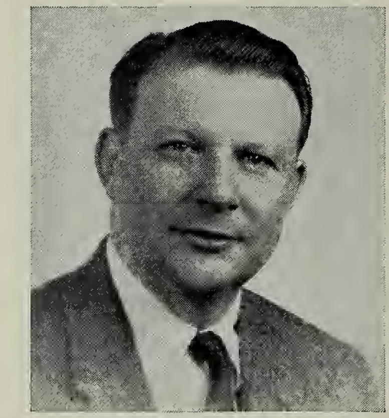
All doctors and their wives are cordially invited

INDUSTRIAL MEDICINE AND SURGERY

Chairman..................Earle T. Dewey, M.D., San Francisco
Secretary..............Leonard J. Yamshon, M.D., Los Angeles
Assistant Secretary....Gandolph A. Prisinzano, M.D., Sacramento



EARLE T. DEWEY
Chairman



LEONARD J. YAMSHON
Secretary

SUNDAY, APRIL 27

9:00—Regency Room

9:00—Chairman's Address: Earle T. Dewey, M.D., San Francisco.

9:15—The Unwarranted Creation of New Occupational Disease Entities—R. T. Johnstone, M.D., Los Angeles.

9:35—Postural Complex: A Different Approach to the Varied Neuralgias and Arthritis—Laurence Jones, M.D., Beverly Hills.

10:05—Recess.

10:25—Borderline Industrial Injuries—J. L. Barritt, M.D., San Francisco.

10:45—Trauma in Preexisting Vascular Disease—Albert Fields, M.D., Los Angeles.

11:05—Body Types—Their Correlation with Personality and Disease—E. R. Perez, M.D., San Jose.

11:25—The Problem of Cancer in Relation to Trauma—A. R. Hedge, M.D., Monrovia.

11:45—Business Meeting.

MONDAY, APRIL 28

9:00—Colonial Room

Joint Meeting with Section on Physical Medicine

Chairman: Roy H. Nyquist, M.D., Long Beach

9:00—Analepes and Treatment of the Low Back Pain Syndrome—Rene Gailliet, M.D., Los Angeles.

9:20—Physical Medicine in the Treatment of Arthritis—Edward P. Reese, M.D., Lynwood.

9:40—Peripheral Surgery in Adult Hemiplegia—Walter J. Treanor, M.D., San Francisco, by invitation.

10:00—Recess.

10:20—The Frozen Shoulder—Leonard J. Yamshon, M.D., Los Angeles.

10:40—Physical Treatment of Cervical Strain—O. Leonard Huddleston, M.D., Santa Monica.

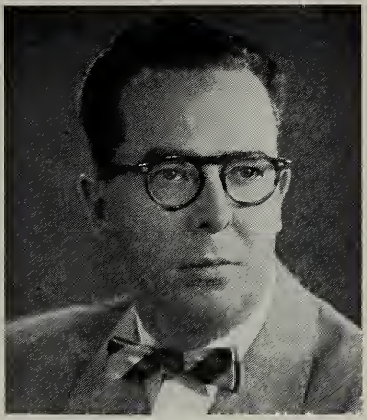
11:00—Physiological Basis and Clinical Application of Ultrasonic Therapy—David Rubin, M.D., Los Angeles.

11:20—Uses and Limitations of Electromyography—Robert V. Miller, Jr., M.D., Beverly Hills.

VISIT THE TECHNICAL AND SCIENTIFIC EXHIBITS

OBSTETRICS AND GYNECOLOGY

Chairman	Keith P. Russell, M.D., Los Angeles
Secretary	Donald R. Nelson, M.D., San Francisco
Assistant Secretary	John C. McDermott, M.D., Los Angeles



KEITH P. RUSSELL
Chairman

DONALD R. NELSON
Secretary

SUNDAY, APRIL 27

Noon—Garden Room

12:00—**Luncheon—Business Meeting and Election of Officers.**

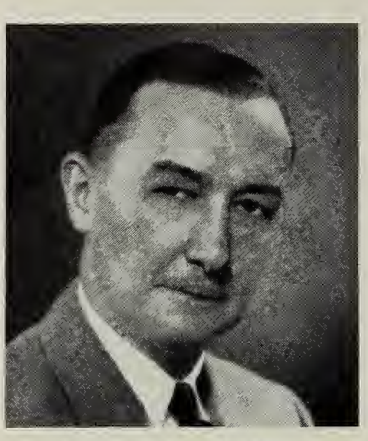
The Section on Obstetrics and Gynecology will not conduct a scientific program because of the meeting of the American College of Obstetricians and Gynecologists in Los Angeles April 21 to 23. There will be a luncheon and business meeting for the election of section officers and planning for the 1959 program.

REGISTRATION

Registration and information desks are located in the Ballroom Foyer, Casino Floor. *All members, guests, and visitors are requested to register immediately on arrival.* There is no charge for registration except for Postgraduate Courses. Registration desks are open Saturday through Wednesday. *Admission to the general and section sessions and exhibit areas is by badge only.*

ORTHOPEDICS

Chairman............Raymond M. Wallerius, M.D., Sacramento
Secretary..............Floyd H. Jergesen, M.D., San Francisco
Assistant Secretary....Howard A. Mendelsohn, M.D., Beverly Hills



RAYMOND M. WALLERIUS
Chairman

FLOYD H. JERGESEN
Secretary

SUNDAY, APRIL 27

9:00—French Room

9:00—**Meralgia Paresthetica Caused by Back Braces**—Lewis Cozen, M.D., Los Angeles.
Discussion.

9:20—**Para-Articular Fusion of the Proximal Interphalangeal Joints of the Hand**—Bernard J. Drury, M.D., Santa Barbara.
Discussion.

9:40—**Palmar Intramural Hematoma (Ulnar Artery)**—Morris L. Goren, M.D., Los Angeles.
Discussion.

10:00—**Femoral Head Replacement by Lateral Condyle of Femur: An Experimental Study—Medical Motion Picture**—John J. Toma, M.D., Beverly Hills.
Discussion.

10:20—**Recess.**

10:45—**Osteotomy of the Cervical Spine**—Marshall R. Urist, M.D., Los Angeles.
Discussion.

11:10—**Restricted Traumatic Ischemic Contracture**—Carl E. Nemethi, M.D., Los Angeles.
Discussion.

11:30—**Chairman's Address: Joint Tuberculosis—Diagnosis and Treatment**—Raymond M. Wallerius, M.D., Sacramento.

12:15—Dolphin Court

12:15—**Luncheon and Business Meeting.**

TWO GENERAL MEETINGS

MONDAY, APRIL 28, and TUESDAY, APRIL 29

Each Afternoon—2 to 5 p.m.

Embassy Room, Ambassador Hotel

PATHOLOGY AND BACTERIOLOGY

Chairman...............Dominic A. DeSanto, M.D., San Diego
Secretary.....................Leslie R. Grams, M.D., San Jose

DOMINIC A. DeSANTO
Chairman

LESLIE R. GRAMS
Secretary

SUNDAY, APRIL 27

9:00—Grove Lounge

9:00—**Chairman's Address: Intraepithelial Carcinoma of the Uterine Cervix—Report of 206 Cases**—Dominic A. DeSanto, M.D., San Diego.
Discussion.

9:40—**Fatal Hepatic Abscess Due to a Bacillus of the Arizona Group—Report of a Case**—Daniel O. Krag, M.D., San Jose, and Dudley N. Shean, Ph.D., San Jose, by invitation.
Discussion.

10:00—**Interstitial Pneumonias and Their Variants, Pathologic Concept**—Robert R. Wright, M.D., San Francisco, by invitation.
Discussion.

10:35—**The Malignant Carcinoid Syndrome**—Elmer E. Pautler, M.D., Bakersfield, by invitation.
Discussion.

11:10—**"Squamous Rests" of the Endometrium**—Frank R. Dutra, M.D., and Ralph M. Kniseley, M.D., Castro Valley.
Discussion.

11:30—**Reversible Morphologic Change in the Walker Tumor Under the Influence of an Anti-Tumor Compound**—Howard A. Ball, M.D., San Diego.
Discussion.

12:00—**Business Meeting and Election of Officers.**

RECEPTION
WOMAN'S AUXILIARY TO THE C.M.A.

SUNDAY, APRIL 27, 6 to 8 P.M.

West Venetian Room

Honoring Mrs. Frank A. MacDonald

All doctors and their wives are cordially invited

PEDIATRICS

Chairman....................Sidney Rosin, M.D., Los Angeles
Secretary................Percy H. Jennings, Jr., M.D., Berkeley
Assistant Secretary....Gordon Richardson, M.D., North Hollywood

SIDNEY ROSIN
Chairman

PERCY H. JENNINGS, JR.
Secretary

TUESDAY, APRIL 29

9:00—Regency Room

9:00—**Goitrous Cretinism**—H. D. Mosier, M.D., Los Angeles, by invitation.

Discussion by Frank L. Plachte, M.D., Los Angeles.

9:25—**Tension Pneumothorax in the Newborn**—Eugene Gettleman, M.D., Sherman Oaks.

Discussion by Maurice M. Hyman, M.D., Los Angeles.

9:50—**Plasminate—A New Plasma Substitute for Pediatric Therapy**—Thomas C. Cock, M.D., Oakland, by invitation.

Discussion by James L. Dennis, M.D., Oakland.

10:15—**Business Meeting and Election of Officers.**

10:30—**Recess.**

10:45—**The Early Signs of Childhood Schizophrenia**—Edward G. Colbert, M.D., Los Angeles, by invitation.

Discussion by Henry Work, M.D., Los Angeles.

11:10—**Familial Infections Caused by Staphylococci of the Hospital Nursery**—Valerie Hurst, Ph.D., San Francisco, by invitation.

Discussion by Richard Koch, M.D., Los Angeles.

11:35—**Teenagers as Patients**—Arthur Roth, M.D., Oakland.

Discussion by Arthur Parmelee, Jr., M.D., Los Angeles.

TUESDAY, APRIL 29

2:00—Embassy Room

2:00— **Panel Discussion**

Congenital Heart Disease

For Program, see Second General Meeting

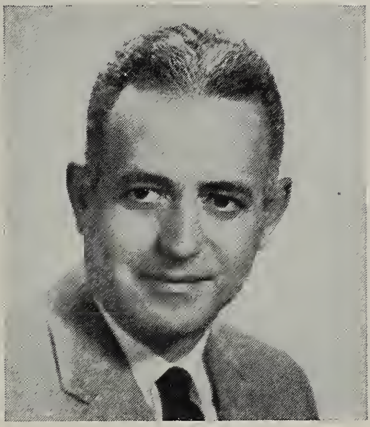
This program was arranged with the cooperation of the Sections on Internal Medicine, General Surgery, and Pediatrics

BRING PROPER IDENTIFICATION FOR REGISTRATION

PHYSICAL MEDICINE

Chairman..................Roy H. Nyquist, M.D., Long Beach
Secretary....................David Rubin, M.D., Los Angeles
Assistant Secretary...........Carrie E. Chapman, M.D., Oakland

ROY H. NYQUIST
Chairman



DAVID RUBIN
Secretary

SUNDAY, APRIL 27

2:00—Grove Lounge

2:00—**Introduction**—Roy H. Nyquist, M.D., Long Beach.

2:10—**The Scientific Basis for Neuromuscular Reeducation—Practical Applications**—Harvey E. Billig, Jr., M.D., Los Angeles.

2:30—**Seizure Problems in Cerebral Palsied Adults**—Margaret Holden Jones, M.D., and Joseph E. Maschmeyer, M.D., Los Angeles.

2:50—**Results of a Long-Term Physical Treatment Program in a Severely Involved Quadriplegic Resulting from Anterior Poliomyelitis**—Richard W. Moore, M.D., Santa Monica.

3:10—**The Management of Chronic Progressive Respiratory Insufficiency**—Clarence W. Dail, M.D., Los Angeles.

3:30—**Recess.**

3:40—**Rehabilitation of the Aged**—John H. Aldes, M.D., Los Angeles, and Robert A. Katz, M.D., Los Angeles, by invitation.

4:00—**Autonomic Disturbances in Poliomyelitis**—Frank S. Zach, M.D., Los Angeles.

4:20—**Expansion of a Shrunken World**—Werner M. Mendel, M.D., Norwalk, by invitation.

4:40—**Business Meeting and Election of Officers.**

MONDAY, APRIL 28

9:00—Colonial Room

Joint Meeting with the Section on Industrial Medicine and Surgery

Chairman: Roy H. Nyquist, M.D., Long Beach

9:00—**Analepes and Treatment of the Low Back Pain Syndrome**—Rene Cailliet, M.D., Los Angeles.

9:20—**Physical Medicine in the Treatment of Arthritis**—Edward P. Reese, M.D., Lynwood.

9:40—**Peripheral Surgery in Adult Hemiplegia**—Walter J. Treanor, M.D., San Francisco, by invitation.

10:00—**Recess.**

10:20—**The Frozen Shoulder**—Leonard J. Yamshon, M.D., Los Angeles.

10:40—**Physical Treatment of Cervical Strain**—O. Leonard Huddleston, M.D., Santa Monica.

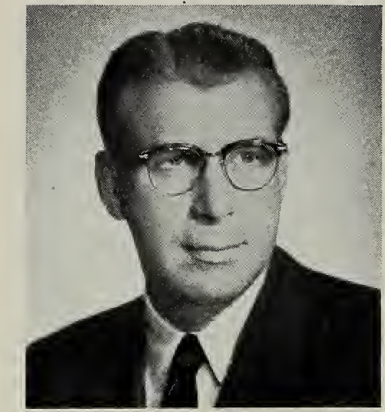
11:00—**Physiological Basis and Clinical Application of Ultrasonic Therapy**—David Rubin, M.D., Los Angeles.

11:20—**Uses and Limitations of Electromyography**—Robert V. Miller, Jr., M.D., Beverly Hills.

VISIT THE TECHNICAL AND SCIENTIFIC EXHIBITS

PSYCHIATRY AND NEUROLOGY

Chairman................Howard A. Black, M.D., Sacramento
Secretary.....................Elinor R. Ives, M.D., Los Angeles
Assistant Secretary..........John D. Moriarty, M.D., Hollywood



HOWARD A. BLACK
Chairman

ELINOR R. IVES
Secretary

TUESDAY, APRIL 29

9:00—Colonial Room

Neurology

9:00—**Chairman's Address**—Howard A. Black, M.D., Sacramento.

9:15—**The Use of Radioactive Isotopes in Neurological Research**—Bill Garoutte, M.D., San Francisco.
Discussion.

9:30—**The Spirochete and Multiple Sclerosis**—Henry Newman, M.D., San Francisco.
Discussion.

9:45—**Congenital Hydrocephalus in Pregnancy**—Laurence L. Jacobs, M.D., and Lloyd F. Summers, M.D., Lynwood.
Discussion by Wallace G. Gilbert, M.D., Lynwood.

10:00—**Dynamic Bracing for Upper Extremities in Hemiplegia**—Margaret Filante, M.D., Los Angeles, by invitation.
Discussion.

10:15—**Getting the Hemiplegic on His Feet**—Elizabeth Austin, M.D., Los Angeles.
Discussion.

10:30—**Bilateral Symmetrical Aneurysms of the Internal Carotid Artery**—Robert E. Florin, M.D., Los Angeles, by invitation.
Discussion.

10:45—**Traumatic Intracerebral Hemorrhage Surgically Treated**—Marvin A. Korbin, M.D., Los Angeles; and Wallace M. Korbin, M.D., Los Angeles, by invitation.
Discussion.

11:00—**Extracranial Headache**—Emil Seletz, M.D., Beverly Hills.
Discussion by J. N. Nielsen, M.D., Los Angeles.

11:20—**The Neurosurgeons' New Interest in the Pituitary**—Bronson S. Ray, M.D., New York City, by invitation.

WEDNESDAY, APRIL 30

9:00—Grove Lounge

Psychiatry

9:00—**Business Meeting and Election of Officers.**

9:15—**Some Problems in the Evaluation of Tranquilizing Agents**—Sidney Cohen, M.D., Los Angeles.
Discussion.

9:30—**The Concept of Motivation in Psychotherapy with Alcoholics**—Allen J. Enelow, M.D., Beverly Hills, and Keith S. Ditman, M.D., Beverly Hills.
Discussion.

9:45—**Treatment of the Phobia by the Release of Repressed Hostility**—Malcolm H. Finley, M.D., San Francisco.
Discussion.

10:05—**Psychogenic Megacolon in Children**—Justin D. Call, M.D., Mary Christianson, M.D., Fred Penrose, and Claude Fiske, Ph.D., Los Angeles, all by invitation.
Discussion.

10:25—**An Analysis of 133 Homosexuals Seen at a University Student Health Service**—Mathew Ross, M.D., Los Angeles.
Discussion.

10:45—**Is Suicide Necessary?**—Ralph B. Elias, M.D., La Jolla.
Discussion.

11:00—**Frontal Lobe Tumors Presenting as Behavior Disorders**—Theodore Kurze, M.D., Los Angeles.
Discussion.

11:15—**Management of Marital Problems in Private Practice**—I. W. Ruskin, M.D., Los Angeles.
Discussion opened by John D. Moriarty, M.D., Hollywood.

11:40—**Half-Way House: An Intermediate Treatment Facility**—Eugene Ziskind, M.D., Los Angeles, and Joseph Pessin, M.D., Los Angeles.
Discussion.

PRESIDENT'S DINNER DANCE

TUESDAY, APRIL 29

Cocoanut Grove, Ambassador Hotel, 8:00 p.m.

Formal dress optional

Tickets will be on sale in the Main Lobby

QUALIFICATIONS/REQUIREMENTS FOR REGISTRATION

(a) All M.D.'s with credentials showing that they hold valid license to practice medicine. (Membership card in C.M.A.; county medical society/association or A.M.A. membership card.)

(b) Medical students will be admitted upon presentation of credentials from their medical schools identifying them as medical students. (A membership card of the Student American Medical Association or letter from their dean's office.)

(c) Medical secretaries will be admitted upon presentation of a letter from the physician-employer.

(d) Pharmacist mates and other military personnel of a like grade will be admitted upon presentation of a letter requesting their admittance, written by their commanding officer.

(e) Dentists (D.D.S.), doctors of veterinary medicine (D.V.M.), registered nurses (R.N.), student nurses, x-ray technicians, laboratory technicians, dietitians, allied public health personnel, and others will be admitted provided they have proper identification.

(f) *All questions on admission will be passed upon by a member of the Committee on Registration who will be present at the desk.*

PUBLIC HEALTH

Chairman.................James C. Malcolm, M.D., Oakland
Secretary............Gerald A. Heidbreder, M.D., Los Angeles
Assistant Secretary........Carolyn B. Albrecht, M.D., San Rafael

JAMES C. MALCOLM
Chairman

GERALD A. HEIDBREDER
Secretary

WEDNESDAY, APRIL 30

9:00—Colonial Room

9:00—Childhood Accidents in Alameda and Contra Costa Counties—B. Otis Cobb, M.D., Martinez; J. Harold Williams, M.D., and Leslie Corsa, Jr., M.D., Berkeley.

9:30—Experiences with a Pilot Program for Management of Acute Alcoholism in a General Hospital—Jack David Gordon, M.D., and Robert I. Levy, M.D., San Francisco; and Charles B. Perrow, M.A., San Francisco, by invitation.

10:00—Recess.

10:15—Public Health in the Jet and Space Age—Thomas Parran, M.D., Pittsburgh, Pennsylvania, by invitation.

11:00—Well-Child Health Supervision for California Pre-School Children—Ralph C. Hornberger, M.D., and Leslie Corsa, Jr., M.D., Berkeley; and Jean Claire Bowman and Harry N. Greenblatt, Berkeley, both by invitation.

11:30—Admission of Mental Patients on Health Officer Certification—A Ten-Year Study in Orange County—Edward Lee Russell, M.D., Santa Ana; and Ralphe W. Harris, M.A., Santa Ana, by invitation.

WEDNESDAY, APRIL 30

2:00—Colonial Room

2:00—The Tuberculous Diseases—Emil Bogen, M.D., Olive View; and Seymour Froman, Ph.D., Olive View, and Drake Will, M.D., Los Angeles, both by invitation.

2:30—A Pediatric Orientation in Programs for Children with Cerebral Palsy—Stanley W. Wright, M.D., Los Angeles, and Austin W. Matthis, M.D., El Centro.

3:00—Business Meeting and Election of Officers.

3:15—Recess.

3:30—Preventive Aspects of Mental Retardation—Thomas L. Nelson, M.D., Eldridge; and Wylda Hammond, M.D., Eldridge, by invitation.

4:00— **Panel Discussion**

The California Epidemiologic Studies of Coronary Heart Diseases

1. The Relationship of Cigarettes and Exercise—Lester Breslow, M.D., Berkeley.
2. The Relationship of Fats in the Diet—Laurence W. Kinsell, M.D., Oakland.
3. The Relationship of Occupational Tension—Ray H. Rosenman, M.D., San Francisco.

VISIT THE TECHNICAL AND SCIENTIFIC EXHIBITS

RADIOLOGY

Chairman.... ....Stanford B. Rossiter, M.D., Menlo Park
Secretary............Nathan M. Spishakoff, M.D., Beverly Hills
Assistant Secretary.........William H. Graham, M.D., San Jose

STANFORD B. ROSSITER
Chairman

NATHAN M. SPISHAKOFF
Secretary

SUNDAY, APRIL 27

9:00—West Venetian Room

Diagnostic Radiology

9:00—**The Roentgen Diagnosis of Suprasellar Tumors**—Alfred Schmitz, M.D., San Francisco.
Discussion.

9:25—**Practical Reduction of Exposure in Roentgen Diagnosis**—Harry A. Bishop, M.D., by invitation; and Bernard J. O'Loughlin, M.D., Los Angeles.
Discussion.

9:50—**The Radiographic Changes in Acute Suppurative Cholecystitis**—James J. McCort, M.D., San Jose.
Discussion.

10:15—**Recess.**

10:30—**New Urologic X-Ray Techniques in Private Practice**—Nathan M. Spishakoff, M.D., Lewis J. Peha, M.D., and William C. Casey, M.D., Torrance.
Discussion.

10:55—**Pediatric Roentgen Diagnosis—Pitfalls and Pleasures**—Steven E. Ross, M.D., San Francisco.
Discussion.

11:20—**Roentgen Findings in Abdominal Trauma**—John H. Woodruff, Jr., M.D., Torrance.
Discussion.

11:45—**Business Meeting and Election of Officers.**

SUNDAY, APRIL 27

2:00—West Venetian Room

Therapeutic Radiology

2:00—**Roentgen Treatment of Granulosa Cell Carcinoma of the Ovary**—Robert B. Engle, M.D., Pasadena.
Discussion.

2:30—**Is There Still a Need for Orthovoltage Therapy?**—Sol R. Baker, M.D., Beverly Hills.
Discussion.

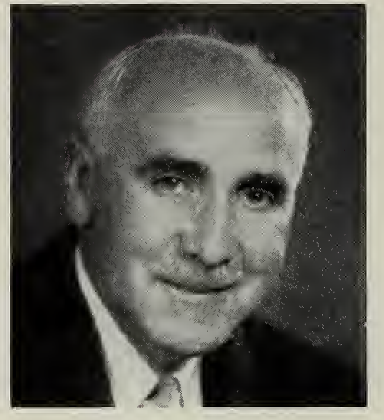
3:00—**A Report on Twenty Months of Experience with 70-Million Volt X-Rays**—Robert S. Stone, M.D., San Francisco; and Rose V. Louie, M.D., and Gail D. Adams, M.D., San Francisco, both by invitation.
Discussion.

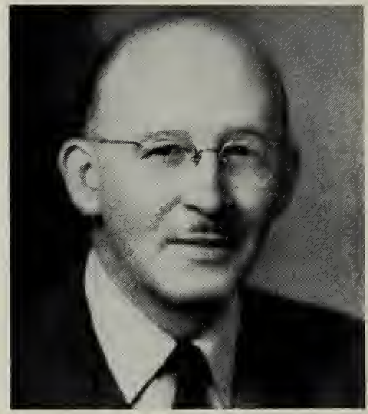
3:30—**Recess—Annual Meeting of the Pacific Roentgen Society.**

BRING PROPER IDENTIFICATION FOR REGISTRATION

UROLOGY

Chairman	Edmund Crowley, M.D., Los Angeles
Secretary	Ray C. Atkinson, M.D., Oakland
Assistant Secretary	Earl F. Nation, M.D., Pasadena


EDMUND CROWLEY
Chairman


RAY C. ATKINSON
Secretary

WEDNESDAY, APRIL 30

9:00—French Room

Joint Meeting with Section on Anesthesiology

9:00—**Donor Insemination: A Report of the Results of 380 Cases**—John O. Haman, M.D., San Francisco.
Discussion.

9:30—**Hormonal Treatment of Chronic Prostatitis**—Joseph J. Kaufman, M.D., Beverly Hills.
Discussion.

10:00—**Recess.**

10:10— **Panel Discussion**

Anesthesia in the Aged and Very Young with Particular Reference to Urologic Surgery

Moderator: John W. Pender, M.D., Palo Alto

Members of the Panel:
Anesthesiologists: James L. Rhee, M.D., Oakland, and John W. Pender, M.D., Palo Alto.
Urologist: Robert J. Prentiss, M.D., San Diego.
Cardiologist: David B. Carmichael, M.D., La Jolla.
Pediatrician: R. Bruce Jessup, M.D., San Francisco.

WEDNESDAY, APRIL 30

2:00—West Venetian Room

2:00—**The Place of the Artificial Kidney in the Treatment of Acute Renal Failure—Experience with 54 Cases**—Peter F. Salisbury, M.D., Los Angeles.
Discussion by Lloyd T. Iseri, M.D., Hondo, and Frank H. Carter, M.D., San Diego.

2:30—**The Importance of Caloric Intake During Renal Shutdown**—Robert T. Plumb, M.D., San Diego, and Frank H. Carter, Jr., M.D., San Diego, by invitation.
Discussion.

3:00—**Treatment of Deep Renal Cortical Cysts**—Morton M. Mayers, M.D., Los Angeles.
Discussion.

3:30—**Unintubated Pyeloplastic Operations for Hydronephrosis—Results of Twenty Cases**—William C. Casey, M.D., Torrance.
Discussion.

4:00—**Chairman's Address**—Edmund Crowley, M.D., Los Angeles.

4:15—**Business Meeting and Election of Officers.**

VISIT THE TECHNICAL AND SCIENTIFIC EXHIBITS

Motion Picture Program

Arthur E. Smith, M.D., D.D.S., Los Angeles, Chairman

COLONIAL ROOM

A carefully selected program of approximately 100 medical motion pictures will be shown Sunday afternoon and evening, Monday afternoon and evening, and Tuesday afternoon and evening.

A full schedule showing the times and titles of each film will appear in the program distributed at the annual session at the time of registration.

The preliminary schedule is as follows:

SUNDAY AFTERNOON, APRIL 27

2:00 to 5:30 p.m. . . . . Gynecology—Obstetrics—Surgery

SUNDAY EVENING, APRIL 27

7:00 to 11:00 p.m. . . . . Pathology—Radiology—Surgery—Urology

MONDAY AFTERNOON, APRIL 28

2:00 to 5:30 p.m. . . . . Medicine—Orthopedics—Surgery

MONDAY EVENING, APRIL 28

7:00 to 11:00 p.m. . . . . Allergy—Anesthesiology—General Practice
Pediatrics—Surgery

TUESDAY AFTERNOON, APRIL 29

2:00 to 5:30 p.m. . . . . . . Dermatology—Neurology—Psychiatry—Surgery

TUESDAY EVENING, APRIL 29

7:00 to 11:00 p.m. . . . . Ophthalmology—Ear, Nose, Throat—Surgery

ROOM DIRECTORY

C.M.A. Office . . . . **Rooms 125-126**
Equipment Room . . . . **Room 129**

REFERENCE COMMITTEE ROOMS

Reference Committee No. 1—Reports of Officers, Council Commissions, Standing and Special Committees:
Monday and Tuesday . . . . Dolphin Court

Reference Committee No. 2—Finance—Reports of Secretary-Treasurer, Executive Secretary and Budget:
Monday and Tuesday . . . . Lido Room

Reference Committee No. 3—Resolutions, New and Miscellaneous Business:
Monday and Tuesday . . . . Grove Lounge

Reference Committee No. 4—Amendments to the Constitution and By-Laws:
Monday and Tuesday afternoon . . . . West Venetian Room

Reference Committee on C.P.S. Business:
Monday and Tuesday . . . . Rose Room

WOMAN'S AUXILIARY *to the* CALIFORNIA MEDICAL ASSOCIATION

Twenty-Eighth Annual Convention, April 27 to 29, 1958

Headquarters: Ambassador Hotel, Los Angeles

MRS. LEONARD D. OFFIELD, President

MRS. NEWELL JONES, President-Elect

Convention Chairman: MRS. HARVEY RASZKOWSKI

REGISTRATION

Main Lobby

Saturday, April 26—4:00 p.m. to 5:00 p.m.
Sunday, April 27—9:00 a.m. to 4:00 p.m.
Monday, April 28—9:00 a.m. to 4:00 p.m.
Tuesday, April 29—8:30 a.m. to 10:00 a.m.

SUNDAY, APRIL 27

8:00 a.m.—Executive Committee breakfast meeting, Garden Room.

9:30 a.m.—Annual Report of the Woman's Auxiliary by the President, Mrs. Leonard D. Offield, to the California Medical Association, House of Delegates, Embassy Room. Auxiliary members and doctors' wives are invited to attend.

10:45 a.m.—Pre-Convention Board Meeting, Lido Room.

6:00 to 8:00 p.m.—Reception honoring Mrs. Frank A. MacDonald, wife of the President of the California Medical Association, West Venetian Room. All doctors and their wives are cordially invited.

MONDAY, APRIL 28

9:30 a.m.—First Business Session of the 28th Annual Meeting, East Venetian Room. Mrs. Leonard D. Offield, presiding.

1:00 p.m.—Luncheon, Past State Presidents, Regency Room.

2:15 p.m.—Second Business Session, East Venetian Room.

TUESDAY, APRIL 29

9:00 a.m.—Third Business Session, East Venetian Room. Mrs. Leonard D. Offield, presiding.

12:30 p.m.—Luncheon in honor of Mrs. Leonard D. Offield and Mrs. Newell Jones; Members of the State Advisory Board; and Past State Presidents, Cocoanut Grove.

3:00 p.m.—Post-Convention Board Meeting, Regency Room. Mrs. Newell Jones, presiding.

8:00 p.m.—Dinner and Ball honoring the C.M.A. President, Frank A. MacDonald, Cocoanut Grove. Formal dress optional.

Scientific Exhibits

Ballroom, Casino Floor

Leg Cramps—Albert Fields, M.D., Los Angeles; and Dorris Fields and Sam Lerner, Los Angeles, by invitation.—Mechanisms of production of leg cramps, emphasizing nocturnal leg cramps. Various treatments will be outlined; pharmacological agents and neuropharmacological actions will be presented.

Intestinal Obstruction; Selective Management with Open and Closed Intubation—Angelo M. May, M.D., San Francisco.—Charts, drawings, moulages, etc., showing indications and methods of intubation with Harris and Miller-Abbott tubes and use of Foley catheter intubation and emptying of intestine at operation.

Plastic Reconstruction of Prominent Ears—Mertin D. Hatch, M.D., Beverly Hills.—Consists of before and after pictures of various types of ear deformities in young and old with serial photos of operative steps involved.

Glycoprotein Studies in Clinical Tuberculosis—S. H. Lawrence, M.D., and David Salkin, M.D., San Fernando; and Henry E. Weimer, Ph.D., Los Angeles, by invitation. Three-panel exhibit with shadow boxes and projectograph.

Alimentary Tract Obstructions in the Newborn—Stephen L. Gans, M.D., Beverly Hills.—Cardboard posters containing photographs of x-rays, pathology, and diagrams, along with descriptive phrases, describing various congenital obstructions with methods of diagnosis and treatment.

Radioiodine Treatment of Paroxysmal Tachycardia—Eliot Corday, M.D., Herbert Gold, M.D., Henry L. Jaffe, M.D., and John Williams, M.D., Los Angeles.—Radioactive iodine has been used successfully to prevent supraventricular and ventricular tachycardia in the euthyroid patient. Demonstrations of method of treatment and clinical course will be exhibited.

An Extension Program of Postgraduate Refresher Courses—Paul D. Foster, M.D., Los Angeles.—The exhibit demonstrates a new extension program of postgraduate refresher courses, for group and individual use, organized in sound-recorded half-hour lectures and illustrated by color filmstrips. The California Medical Association has authorized the chairman of its Committee on Postgraduate Activities to act as advisor to College of Medical Evangelists on this program. A tape recorder with earphones and a filmstrip projector are used to show sample lectures. Descriptive literature is available.

Evening demonstrations—Sunday, Monday and Tuesday, 6:30 to 11 p.m., Regency Room.

Axial Transverse Planigraphy of the Chest—Stefan P. Wilk, M.D., Los Angeles.—Presentation in the form of diagrams of the general principles of the axial transverse planigraphy. Demonstration of the potentialities of the method when applied in various pathological conditions of the chest.

Multi Channel Sliding Vectorcardiography—David C. Levinson, M.D., Herbert Shubin, M.D., Los Angeles, and Mr. Lou Fields, Los Angeles, by invitation.—A new four-channel sliding vectorcardiograph using a seventeen-inch oscilloscope and electric switch has been developed. Illustrations of normal and abnormal vectorcardiograms obtained by this technique will be illustrated.

Circumscribed Pulmonary Lesions; A Plea Against Complacency.—Robert W. Jamplis, M.D., J. Ian McNeill, M.D., Sidney P. Mitchell, M.D., Francis S. North, M.D., John F. Weigen, M.D., and George A. Wood, M.D., Palo Alto.—Eight x-rays will be presented as "unknowns" so that the viewer can guess their nature. The photomicrographs with the pathologic diagnosis can then be uncovered revealing the exact diagnosis. Surrounding the x-rays and photomicrographs will be posters denoting our thoughts about lesions of this type.

Acid-Fast Bacteria—Emil Bogen, M.D., Olive View, and Seymour Froman, Olive View, by invitation.—Charts and Tables showing the characteristics of various types of acid-fast bacteria other than the typical tubercle bacilli, and the methods for their differentiation, slides and cultures for their appearance, and pathological specimens illustrating their clinical significance.

Contrast Visualization of Lymph Nodes—Edward Shanbrom, M.D., Duarte, and Norman Zheutlin, M.D., Los Angeles, both by invitation.—Radiographic display of contrast visualization of lymph nodes by means of direct injection of iodized oil.

Reconstruction of the Nose After Surgical Excision of Cancer—Harry J. Buncke, Jr., M.D., San Mateo, and Herbert Conway, M.D., New York City, by invitation.—Photographs and drawings are utilized to illustrate the various reconstructive techniques used to reconstruct the total nose or partial defects created by the excision of malignancies.

PRESIDENT'S DINNER DANCE

Tuesday, 8:00 p.m., Cocoanut Grove, Ambassador Hotel

Technical Exhibits

Technical exhibits for the 1958 Annual Session will again be housed in the spacious and luxurious Ballroom, Sunset Room and Boulevard Room of the Ambassador Hotel. These areas, used for these exhibits for the past two years, have provided an ideal setting for the many displays.

All technical exhibits are carefully screened, so that members may rely on the propriety of the products and services offered. At the same time, the newest developments in pharmaceuticals, equipment and services will be on display, with full information available through trained representatives.

Exhibits will be open daily from 9 a.m. to 5 p.m. All physicians will find their time well spent in visiting the exhibits and keeping abreast of what is new and useful. Your attendance is urged, for your own benefit as well as for an expression of cooperation with our exhibitors.

ABBOTT LABORATORIES — Boulevard Room
North Chicago, Illinois — Booth 90 and 91

Abbott Laboratories will welcome members of the medical profession at the company's exhibit of leading specialties and new products. Representatives will be in attendance to answer any questions you may have. Abbott recently introduced a number of new products which representatives at the exhibit will describe and give information on the results of clinical reports.

A. S. ALOE COMPANY — Boulevard Room
Los Angeles — Booth 70

ALTA-DENA DAIRY — Sunset Room
Monrovia — Booth 19

Our exhibit will feature Certified Raw Milk. The backdrop will illustrate steps in producing clean, safe, raw milk from the feeding of the trace minerals, through laboratory procedure on to delivery at the customers' door.

We plan to dispense samples and literature from our booth.

AMBCO, INC. — Sunset Room
Los Angeles — Booth 40

AMERICAN STERILIZER COMPANY — Sunset Room
Erie, Pennsylvania — Booth 17

AMES COMPANY, INC. — Boulevard Room
Elkhart, Indiana — Booth 88

Featured at the Ames Company exhibit will be the latest developments in new, simplified diagnostic products which are adaptable to routine examination and patient management. The many advantages of the new diagnostic products are quickly demonstrable and you are cordially invited to stop at the Ames booth to see them.

AUDIO-DIGEST FOUNDATION — Ballroom
Glendale — Booth 60

Audio-Digest Foundation—a subsidiary of the California Medical Association—gives the busy physician an effortless tour through the best of current medical literature each week. This medical tape-recorded "newscast"—compiled and reviewed by a professional Board of Editors—may be heard in the physician's automobile, home or office. The Foundation also offers medical lectures by nationally recognized authorities.

AYERST LABORATORY — Sunset Room
New York, New York — Booth 35

All physicians attending the annual session of the California Medical Association are invited to stop by the Ayerst exhibit and discuss with our professional representatives the latest information in the control of spontaneous hemorrhage.

"Mysoline," "Premarin" with Meprobamate, and other Ayerst specialties will also be on exhibit.

BARNES-HIND LABORATORIES — Sunset Room
Sunnyvale — Booth 37

DON BAXTER, INC. — Sunset Room
Glendale — Booth 42

M. J. BENJAMIN — Ballroom Foyer
Los Angeles — Booth 3

BRISTOL-MYERS PRODUCTS DIVISION — Sunset Room
New York, New York — Booth 46

AMMENS Medicated Powder, a finely milled dispersion of talc in cornstarch especially useful in pediatrics, orthopedics, and physical medicine will be featured by Bristol-Myers. THERADAN, a new preparation for long-lasting relief from dandruff will also be on hand.

BURROUGHS WELLCOME & CO., INC. — Sunset Room
Tuckahoe, New York — Booth 11

NEW PRODUCTS: The extensive research facilities of 'B. W. & Co.,' both here and in other countries, are directed to the development of improved therapeutic agents and techniques. Also much basic theoretical work in our laboratories and in cooperation with internationally known institutions is contributing to the reservoir of fundamental medical knowledge.

Through such research 'B. W. & Co.' has made notable advances related to leukemia, malaria, diabetes, and diseases of the autonomic nervous system; and to antibiotic, muscle-relaxant, antihistaminic, and antinauseant drugs.

An informed staff at our booth will welcome the opportunity to discuss our products and latest developments with you.

CAMEL CIGARETTES — Boulevard Room
Winston-Salem, North Carolina — Booth 76

CANRIGHT CORPORATION
Glendale
Sunset Room
Booth 15

Our line of quality prescription formulas will be on display. Courteous, well informed representatives will be present to discuss these products with you. Samples and literature will be sent to you on request.

CHICAGO PHARMACAL COMPANY
Chicago, Illinois
Sunset Room
Booth 24

Urised: Nationally known and clinically proven tablet for both comfortable sedation and thorough antisepsis in all types of genitourinary affections.

Estrosed: A combination of the most potent of the oral estrogens, ethinyl estradiol, and the safest of the tranquilizers, reserpine, in a pleasant-tasting, inexpensive tablet form, for the safe sedative treatment of the menopausal syndrome by readjusting estrogen balance and relieving emotional disturbance.

Juniplex: An excellent tasting liquid tonic for both children and adults which contains all the essential minerals as well as the entire B complex plus 30 micrograms of B_{12} per teaspoonful. Excellent for stimulation of appetite and nutritional supplement for all ages.

CIBA PHARMACEUTICAL PRODUCTS, INC.
Summit, New Jersey
Ballroom
Booths 61 and 62

THE COCA-COLA COMPANY
Atlanta, Georgia
Sunset Room
Booth 44

Ice-cold Coca-Cola served through the courtesy and cooperation of the Coca-Cola Bottling Company of Los Angeles, Los Angeles, California and the Coca-Cola Company.

CUTTER LABORATORIES
Berkeley
Sunset Room
Booth 48

DARWIN LABORATORIES
Los Angeles
Ballroom Foyer
Booth 5

Lipo-Hepin 200; sodium heparin U.S.P., in purified form allowing only one or two injections per day for 24 hour anticoagulant effect, regardless of patient weight. Ready to use, no prewarming, convenient, economical and effective.

Dar-Zyme; purified trypsin with antibiotic in ointment form for topical proteolytic digestion of necrotic tissue. Ready to use, economical, convenient and effective.

Adrenalex-Geriatric; hormone (estrogen-testosterone), vitamin and hematopoietic combination capsule for use in treatment and prevention of certain geriatric problems.

DESITIN CHEMICAL COMPANY
Providence, Rhode Island
Sunset Room
Booth 26

Desitin Ointment: The pioneer cod liver oil ointment for the treatment of burns, ulcers, wounds, diaper rash.

Desitin Powder: Pioneer cod liver oil dusting powder for the treatment of intertrigo, diaper rash, exanthema, abrasions, etc.

Desitin Hemorrhoidal Suppositories: Relieve pain and itching, promote healing, give comfort in uncomplicated hermorrhoids, fissures. Contain no anesthetics or styptics.

Rectal Desitin Ointment: For effective relief in simple hemorrhoids, pruritus and fissures. No anesthetic.

Desitin Lotion: Soothing, protective, mildly astringent for the treatment of pruritus, poison ivy and nonspecific dermatitis.

Desitin Cosmetic and Nursery Soap: Supermild, nonallergenic, pleasantly scented deodorant.

THE DEVEREAUX FOUNDATION
Santa Barbara
Boulevard Room
Booth 71

THE DIETENE COMPANY
Minneapolis, Minnesota
Boulevard Room
Booth 73

Have you tasted Meritene . . . the whole protein supplement that does taste good? Visit our booth, enjoy a Meritene Milk Shake with its multiple nutritive values.

While you're there, review the Dietene Diet based on Dietene Reducing Supplement. It provides the rare combination of low calories (1000) with high intake of protein and all essential vitamins and minerals in an interesting, effective safe weight reducing diet.

DOHO CHEMICAL CORPORATION
New York, New York
Boulevard Room
Booth 81

Doho Chemical Corporation is pleased to exhibit: Auralgan—Ear medication in Otitis Media and removal of Cerumen. Otosmosan—Effective, nontoxic Fungicidal and Bactericidal (gram negative-gram positive) in the suppurative and aural dermatomycotic ears. Rhinalgan—Nasal decongestant free from systemic or circulatory effect and equally safe to use on infants as well as the aged. New Larylgan—Soothing throat spray and gargle for infectious and non-infectious sore throat involvements.

Mallon Chemical Corporation, Subsidiary of the Doho Chemical Corporation, is also featuring: Rectalgan—Liquid topical anesthesia, for relief of pain and discomfiture in hemorrhoids, pruritus and perineal suturing. Dermoplast—Aerosol freon propellent spray for fast relief of surface pain, itching, burns and abrasions. Also Obs. & Gyn. use.

DOME CHEMICALS, INC.
New York, New York
Sunset Room
Booth 16

Dome Chemicals Inc., booth No. 16, is proud to present its Acid Mantle Group of Products, including the new Cor-Tar-Quin Creme for stubborn and infectious dermatoses; Hist-A-Cort-E Creme for senile vaginitis, pruritus vulvae and kraurosis vulvae; Cort-Dome and Neo-Cort-Dome Creme and Lotion for inflammatory and infectious dermatoses, including otitis externa; the most extensive line of wet dressings, including Soyaloid Colloid Bath; the new principle of vitamin utilization by buccal absorption in Vi-Dom-A-Buccal Tablets and Vi-Dom-A-C-Oral-Tabs; and the new, safer prednisolone K-Predne-Dome with built-in protection against the threat of potassium depletion, for prompt control of a wide variety of allergic, pruritic and inflammatory dermatoses, rheumatoid arthritis, asthma, hay fever and various hormonal and metabolic dyscrasias.

EATON LABORATORIES
Norwich, New York
Sunset Room
Booth 39

Now for hospitalized patients, livesaving Furadantin® Intravenous Solution—for severe urinary tract infections when peroral administration of Furadantin is not feasible and for serious infections as septicemia (bacteremia) when the bacterium is sensitive.

Postmenopausal uretheritis yields promptly to new Furestrol^T.M.^ Suppositories. Provides estrogen to reverse the involutional changes of senile uretheritis, plus the antibacterial, anesthetic and gently dilating action of the Furacin Urethral Suppository.

An advance in the treatment of vaginitis—Tricofuron® Improved Vaginal Suppositories and Powder. Simple two-step treatment swiftly brings relief and control of vaginal moniliasis and trichomoniasis. Rapid relief of burning and itching often within 24 hours. Eliminates malodor, esthetically acceptable.

EISELE & COMPANY — Boulevard Room
Nashville, Tennessee — Booth 101

Eisele & Company is very happy to exhibit at the California Medical Association Convention. We will display our line of hypodermic syringe both the regular and interchangeable types, our clinical thermometer line, hypodermic syringes, Eco bandages, and specialty glassware. We would like very much for you to stop by our booth No. 101 to learn of our many money saving direct selling policies.

ENCYCLOPAEDIA BRITANNICA — Sunset Room
Los Angeles — Booth 45

ENDO PRODUCTS, INC. — Boulevard Room
Richmond Hill, New York — Booth 98

EXECUTONE SOUTHERN CALIFORNIA CORP. — Ballroom
Los Angeles — Booth 10

Exhibit will feature Executone intercommunication systems designed for doctors' offices and medical buildings. The systems are designed to save a doctor's time, help him give his patients better service and help reduce his monthly phone bills. Since doctors' communication needs vary, depending on their specialties and the size and layout of their offices, Executone makes several different intercom systems. The exhibit will feature "live" demonstrations of several of these systems, plus literature on the Executone Audio-Visual Nurse Call Systems now being used at hundreds of hospitals throughout the country.

CHARLES O. FINLEY & CO. — Sunset Room
Chicago, Illinois — Booth 55

Representatives of Charles O. Finley & Co., administrators of the California Medical Association group disability insurance program, will be on hand to describe the program to eligible members and to answer your questions. You are invited to come in, sit down and relax.

C. B. FLEET COMPANY. INC. — Boulevard Room
Lynchburg, Virginia — Booth 92

FLINT, EATON & COMPANY — Boulevard Room
Decatur, Illinois — Booth 94

Flint, Eaton and Company features Ferrolip, a safe, well tolerated and effective form of chelated iron. Also featured is Uronamide for predictable, uncomplicated relief and recovery in urinary tract infections.

FOREMOST DAIRIES — Sunset Room
San Francisco — Booth 30

Foremost "Fresher Tasting" evaporated milk is the first to have all the quality and nutrition found in the best evaporated milks plus—Flavor—Color—and Aroma akin to fresh whole milk, and a greater retention of Vitamin B_{12}.

Nutritional data, as well as recipes, will be available at the booth. Refreshing "Egg Nog" made from this new product will be served. On request, samples of Foremost "Fresher Tasting" evaporated milk will be mailed to your office or home.

GEIGY PHARMACEUTICALS — Ballroom Foyer
Yonkers, New York — Booth 7

The Geigy exhibit will feature Preludin—chemically new appetite suppressant virtually devoid of central stimulant action, and Butazolidin—nonhormonal antiarthritic. Also on display will be Sintrom—potent oral anticoagulant with intermediate duration of action, Sterosan-Hydrocortisone Cream and Ointment—for comprehensive control of a wider range of dermatoses, and Medomin—safe, gentle hypnotic and sedative.

GENERAL ELECTRIC COMPANY — Ballroom Foyer
Milwaukee, Wisconsin — Booth 1

GERBER PRODUCTS COMPANY — Sunset Room
Fremont, Michigan — Booth 32

Visit the Gerber booth. Presenting a completely new idea to increase protein in infant diets. Gerber's new high meat dinners have three times the meat. Nutritionally advantageous. Gerber's new strained and junior high meat dinners contain much more protein than regular vegetable and meat combinations. Acceptance assured! Gerber's high meat dinners, an exclusive development of the Gerber Laboratories, were tested by hundreds of mothers and babies. The babies accepted them readily and seemed to like the brighter meat flavor.

GREAT BOOKS OF THE WESTERN WORLD — Boulevard Room
Los Angeles — Booth 74

Presented by Encyclopaedia Britannica in collaboration with the University of Chicago. The accumulated wisdom of three thousand years of civilization together with the revolutionary idea-index called the Syntopicon—the ingenious new literary invention magically making available and easily accessible all the wisdom and knowledge contained in the Great Books. These books bring together the greatest minds and ideas spanning thirty centuries of Western civilization—443 works by 74 authors—Homer, Plato, Hippocrates, Machiavelli, Shakespeare, Augustine, Bacon, Swift, Dostovesky, to name just a few. These are the works that are indispensable to the liberal education of a free man in the twentieth century.

H. J. HEINZ COMPANY — Sunset Room
Pittsburgh, Pennsylvania — Booth 27

HOFFMANN-LA ROCHE, INC. — Ballroom
Nutley, New Jersey — Booth 63

HOLLAND-RANTOS COMPANY, INC. — Sunset Room
New York, New York — Booth 14

Simplicity with security keynotes the Koromex exhibit! Easier application and correct placement of the Koroflex diaphragm increases patient's acceptance, confidence and protection. . . . Why "KOROMEX is the most spermicidal of five nationally available brands," as comparison test indicate, is explained in a brochure report physicians may obtain upon request.

Threefold trichomonicidal, fungicidal and bacteriacidal action accounts for the effectiveness of NYLMERATE JELLY and NYLMERATE ANTISEPTIC SOLUTION CONCENTRATE in vaginitis due to such causative organisms . . . and significantly in mixed infections and in presence of secondary bacterial invaders.

HOLLANDEX SILICONE OINTMENT with natural vitamins A and D is a medicated skin first-aid for infants, children and adults . . . excellent for diaper rash, decubitus ulcers, miliaris, fissured nipples, etc.

JACKSON-MITCHELL PHARMACEUTICALS, INC. — Sunset Room
Culver City — Booth 18

Jackson-Mitchell Pharmaceuticals are exhibiting the new powdered goat milk, as well as MEYENBERG EVAPORATED GOAT MILK which is being fortified with Vitamin B_{12}, B_6 and folic acid. MEYENBERG EVAPORATED AND POWDERED GOAT MILK are the natural substitutes wherever there is a cow's milk allergy. HI-PRO, our high protein, low fat powdered cow's milk, will also be exhibited.

ROGER JESSUP CERTIFIED FARM — Boulevard Room
Glendale — Booth 79

The exhibit of the Roger Jessup Certified Farm centers on the many rules and regulations of the Milk Commission, Los Angeles County Medical Association, governing the production and distribution of Certified Raw Milk.

Educational in nature, the exhibit stresses approved laboratory standards, medical supervision of personnel, veterinary supervision, herd management and milk processing and distribution.

JOHNSON & JOHNSON — Boulevard Room
New Brunswick, New Jersey — Booth 80

Johnson & Johnson will display the latest improvements in surgical dressings, as developed by the Johnson & Johnson Research Laboratories. In addition, Johnson's Elastic Hosiery and Johnson's Baby Products will be exhibited. You will find well-informed representatives pleased to discuss these products or provide information on any other items made available by the world's largest manufacturer of surgical dressings and baby products.

LEDERLE LABORATORIES — Boulevard Room
New York, New York — Booth 89

ELI LILLY AND COMPANY — Sunset Room
Indianapolis, Indiana — Booth 43

You are cordially invited to visit the Lilly exhibit located in booth number 43. The Lilly sales people in attendance welcome your questions about Lilly products and recent therapeutic developments.

J. B. LIPPINCOTT COMPANY — Ballroom Foyer
Philadelphia, Pennsylvania — Booth 8

J. B. Lippincott Company presents, for your approval, a display of professional books and journals geared to the latest and most important trends in current medicine and surgery. These publications, written and edited by men active in clinical fields and teaching, are a continuation of more than 100 years of traditionally significant publishing.

LLOYD BROTHERS, INC. — Sunset Room
Cincinnati, Ohio — Booth 34

RONCOVITE, DOXINATE, and DOXINATE with DANTHRON, original products of Lloyd research, will be featured at this display. Lloyd representatives will present the latest clinical studies on Roncovite, the first true hematopoietic stimulant as well as the complete story of Doxinate, the new nonlaxative method of preventing and treating constipation.

LOMA LINDA FOOD COMPANY — Sunset Room
Arlington — Booth 47

P. LORILLARD COMPANY — Sunset Room
New York, New York — Booth 21

LOV-É BRASSIERE COMPANY — Ballroom Foyer
Hollywood — Booth 4

You are invited to view our complete line of custom-fitted brassieres designed to provide corrective support for specific breast conditions in exact accordance with the physician's instructions. We also would like to show you our new and improved breast prosthesis, the Lov-é "TWIN" breast form. This new form provides adjustable weight for perfect balance, ideal for all occasion wear, custom-fitted and weight adjusted to the individual's need. Our special representative will be happy to greet you and answer any questions.

MALTBIE LABORATORIES — Sunset Room
Belleville, New Jersey — Booth 12

The Maltbie Laboratories booth features Desenex® Night and Day treatment of athlete's foot, Bifran® for control of obesity and biliary disturbance, Cholan V for effective hydrocholeresis with superior spasmolysis, Malcotran®, the effective anticholinergic with wide therapeutic range, Nesacaine®, the first local anesthetic more potent yet less toxic than procaine, and Caldesene® Medicated Powder for diaper rash.

MARLYN COMPANY, INC. — Sunset Room
Los Angeles — Booth 33

THE S. E. MASSENGILL COMPANY — Boulevard Room
San Francisco — Booth 96

Doctors are invited to visit the Massengill exhibit and obtain some new information on Adrenosem, the systemic hemostat. Also, a new method of administering vitamin A and a geriatric formula in HOMAGENETS, the homogenized vitamins in solid form.

McNEIL LABORATORIES — Ballroom
Philadelphia, Pennsylvania — Booth 67

Members of the California Medical Association are cordially invited to attend our booth No. 67, Mr. H. A. Harley in charge. Products to be featured are: Butibel, Butiserpine, Butisol Sodium, Flexilon, Flexin and Tylenol.

MEAD JOHNSON & COMPANY — Ballroom

Evansville, Indiana — Booth 68

The Mead Johnson exhibit has been arranged to give you the optimum in quick service and complete product information. The exhibit will be staffed by specially trained representatives who will be prepared to provide you with information on any of these products or product "families": (1) Tempra—the first physician controlled antipyretic/analgesic in drop and teaspoon dosage form. (2) The Mead Johnson Formula Products Family—the most complete feeding service for well and sick infants. (3) The Deca Vitamin Family—vitamins in three convenient dosage forms providing comprehensive vitamin protection for infants and children. (4) The Pablum Products—featuring the new Pablum Assorted-Pak. (5) The Colace Products Family for the management of constipation.

MEDICAL DAIRY SPECIALTIES, INC. — Boulevard Room

Chicago, Illinois — Booth 84

Medical Dairy Specialties, Inc., Chicago, Illinois, will feature its widely used Enzylac, a fresh, whole milk product modified by pancreatic, proteolytic enzymes to provide active enzymes in cow's milk equivalent in quantity and type to those found in human milk. These enzymes produce a soft curd, conditions milk protein, making it more easily digested and increasing the availability of amino acids, vitamins and minerals. Enzylac is used for feeding normal full term infants, prematures, and many problem feeders. For children and adults who cannot or will not drink milk it has proved of invaluable assistance.

Also featured will be Kazol, a delicious buttermilk with 500,000,000 Lactobacillus acidophilus added to improve both therapeutic and nutritive values. Kazol is used to relieve a variety of uncomplicated, functional gastrointestinal disturbances.

Your Medical Dairy Specialties, Inc., representatives are looking forward to telling you more about these two outstanding Medical Milk products.

THE MEDICAL PROTECTIVE COMPANY — Ballroom

Fort Wayne, Indiana — Booth 57

Malpractice Prophylaxis . . . Effects of collectivism in malpractice insurance are clearly reflected in the more hazardous practice and higher insurance rates which invariably prevail wherever expression of grievances is encouraged, malpractice is publicized and exaggerated, due legal process is infringed upon, expert testimony is impaired, and insurance is overemphasized. The Medical Protective Company maintains the dignity and rights of the individual, counsels confidential relations, presents unimpeachable defense and provides proper protection against loss; in consonance with the free enterprise system in the practice of medicine. With 59 years of doing one thing right, Specialized Service makes our doctor safer.

MERCK SHARP AND DOHME — Ballroom

Philadelphia, Pa. — Booth 58

THE WM. S. MERRELL CO. — Sunset Room

Cincinnati, Ohio — Booth 25

Tace, a "treatment of choice" for suppression of lactation will be featured.

You are invited to discuss this and other Merrell research products with our representatives.

THE MILEX-FERTILEX COMPANY — Boulevard Room

Los Angeles — Booth 103

MILLER SURGICAL COMPANY — Boulevard Room

Chicago, Illinois — Booth 75

The Miller Surgical Company, Chicago, Illinois, are pleased to announce they are the sole manufacturers of Dr. Rudolph Gorsch's Illuminated Stainless Steel Rectal Scopes. Proctologists and other physicians interested in this field will find it worthwhile to take a look. Other items of interest include their portable Electro-Scalpel (weight 19 lbs.). It provides a unit for office, hospital, and out-call use. It comes complete with electrodes for all minor and light surgery, cutting, coagulating, desiccating, dehydrating and fulgerating in general work. Also Reflectolite Head-lite. Miller Ophthalmoscope and many other Illuminating and Magnifying Diagnostic Units which have attracted the attention of so many doctors in general practice, as well as in special fields.

MONROE CALCULATING MACHINE CO., INC. — Boulevard Room

San Francisco — Booths 82 and 83

Accounting systems designed for the Medical Profession.

A special system for the one-doctor office, plus systems for any size group.

Neat accurate records that are always up-to-date, statements always complete, ready for mailing any day.

The plan is one that builds good-will with patients, heads off questions and misunderstandings by furnishing complete information about charges and payments, faster collections, on-time billing.

Exceptionally simple for receptionist or secretary, requires no specialized training.

Visit our booth Nos. 82 and 83 and see the systems in operation.

C. V. MOSBY COMPANY — Sunset Room

St. Louis, Missouri — Booth 29

Featured in the Mosby Display—Booth No. 29—will be the following new titles: Modell "Drugs of Choice"; Haik "Symposium on Diseases and Surgery of the Lens"; Patton "Pediatric Index"; Miale "Laboratory Medicine —Hematology"; Burdette "Etiology and Treatment of Leukemia"; Allen "Strabismus Ophthalmic Symposium II"; Stephenson "Cardiac Arrest and Resuscitation"; Alexander "Care of the Patient in Surgery"; Morris and Scully "Endocrine Pathology of the Ovary"; Willson "Obstetrics and Gynecology"; Williamson "Practical Use of Office Laboratory and X-Ray"; Lisser-Escamilla "Atlas of Clinical Endocrinology"; Duke-Elder "The Eye in Evolution"; Harrington "The Visual Fields"; Ball "Gynecologic Surgery and Urology"; Kenney-Larson "Orthopaedics for the General Practitioner"; Sherman-Kessler "Allergy in Pediatric Practice."

THE NATIONAL DRUG COMPANY — Boulevard Room

Philadelphia, Pennsylvania — Booth 87

NEPERA LABORATORIES — Boulevard Room

Morris Plains, New Jersey — Booth 86

Choledyl, a new drug, has been highly effective in the treatment of bronchial asthma, bronchospasm and congestive heart failure. Choledyl assures high oral theophylline blood levels, with minimal side reactions; it rarely produces fastness.

THE NETTLESHIP COMPANY Sunset Room
Los Angeles Booth 13

Administrators of officially approved Professional Liability, Accident and Sickness, and Life Insurance Programs for County Medical Association in Southern California. Complete insurance planning for members of the medical profession by specialists in this field.

Representatives available to discuss any insurance problems as well as claims prevention in the field of Professional Liability.

ORGANON, INC. Boulevard Room
Orange, New Jersey Booth 93

Physicians are cordially invited to visit the Organon booth for information on new therapeutic specialties. Among these will be ADRESTAT, the complete systemic hemostat, LIQUAMAR, the new and potent oral anticoagulant, WIGRAINE, the rapid-acting migraine therapy, CORTROPHIN-ZINC, the long-acting aqueous ACTH, and NUGESTROAL, the aid for the abortion-prone patient. Organon representatives will be happy to discuss these advances in therapy with all interested physicians.

ORTHO PHARMACEUTICAL CORPORATION Boulevard Room
Raritan, New Jersey Booth 105

ORTHO cordially invites you to booth 105. Featured will be RARICAL Iron-Calcium Tablets and RARICAL Iron-Calcium With Vitamin Tablets. Also on display will be DELFEN Vaginal Cream, ORTHO'S most sperimicidal contraceptive. ORTHO representatives welcome this opportunity to meet you and discuss their products with you.

PARKE, DAVIS & COMPANY Sunset Room
Detroit, Michigan Booth 28

Medical service members of our staff will be in attendance at our exhibit to discuss important Parke-Davis specialties which will be on display.

PEPSI-COLA COMPANY Boulevard Room
New York, New York Booth 97

PERSON & COVEY Ballroom
Glendale Booth 64

Person & Covey representatives will be on hand to discuss our most recent medical specialties with you.

PICKER X-RAY Ballroom
Los Angeles Booth 59

Anatomical Control and Miscellaneous Accessories.

PITCHER ELECTRONICS, INC. Ballroom
Brea Booth 69

The Medco-Sonlator will be exhibited again this year. Factory trained personnel will be on hand to answer your questions on using this patented instrument as a diagnostic tool, as well as new developments in the therapeutic applications of this combination instrument.

THE PURDUE FREDERICK COMPANY Boulevard Room
New York, New York Booth 107

We cordially invite you to visit our booth where you will find our Special Representative on hand to answer your questions and offer you latest information and samples of our featured specialty pharmaceuticals: *Glutazyme Capsules and Powder*—a nutritive supplement for the patient over 40. *Senokot Tablets and Granules*—time proven constipation correctives, with their allied products, *Senokap, Senobile and Senokot with Psyllium. Pre-Mens* (plain and with d-Amphetamine)—for multidimensional therapy of premenstrual tension. *Somatovite Liquid* and *Tablets*—for promoting weight gain and appetite in the undernourished, underweight, hyperexcitable child. *Sippyplex*—for comprehensive, peptic ulcer management.

R. J. REYNOLDS TOBACCO COMPANY Boulevard Room
Winston-Salem, North Carolina Booth 76

Welcome to the R. J. Reynolds Tobacco Company Exhibit! You are cordially invited to receive a cigarette case (monogrammed with your initials) containing your choice of CAMEL, WINSTON Filter, Menthol Fresh SALEM, or CAVALIER King Size Cigarettes.

A. H. ROBINS COMPANY, INC. Boulevard Room
Richmond, Virginia Booth 72

J. B. ROERIG AND COMPANY Sunset Room
New York, New York Booth 41

J. B. ROERIG AND COMPANY, booth No. 41, will feature ATARAX, the new "Peace of Mind" drug. It's an all new chemical and is specially indicated for the "more normal" person, to bring relief from the common everyday tensions and anxieties. Co-featured with ATARAX will be BONADOXIN, the antiemetic for relief of the nausea and vomiting of pregnancy; also effective in postanesthetic nausea and postradiation sickness. Literature and samples are available to physicians at the booth which you and your friends are cordially invited to visit.

ROSS LABORATORIES Sunset Room
Columbus, Ohio Booth 54

ROSS LABORATORIES: CURRENT CONCEPTS IN PEDIATRICS stressing the critical aspects of preventive care and the development of the infant as a whole being. Your SIMILAC representatives will be happy to discuss the role of physiologic feeding in providing optimum clinical benefits. Copies of the latest Ross Pediatric Research Conference Reports are displayed.

SANBORN COMPANY Ballroom Foyer
Waltham, Massachusetts Booth 2

Featured at the Sanborn exhibit will be the new and outstandingly successful Model 300 VISETTE—a complete electrocardiograph of full diagnostic accuracy that weighs only 18 pounds. The familiar Model 51 Viso-Cardiette will also be available for comparison—as will the famous Sanborn Metabulator.

For those interested in research, full data will be available regarding Sanborn Recording Systems (single and multi-channel; direct, photographic and tape), Monitoring Oscilloscopes, and Transducers.

SANDOZ PHARMACEUTICALS Boulevard Room
Hanover, New Jersey Booth 85

Sandoz Pharmaceuticals cordially invites you to visit our display at booth No. 85.

Bellergal Space tabs assures around the clock control of functional complaints (example—menopause symptoms) in the periphery where they originate.

Sandostene Space tabs around the clock control of itching and hay fever.

Fiorinal a new approach to therapy of tension headache and other head pain due to sinusitis and myalgia.

Any of our representatives in attendance, will gladly answer questions about these and other Sandoz products.

W. B. SAUNDERS COMPANY Ballroom Foyer
Philadelphia, Pennsylvania Booth 6

New Saunders books of special interest since last year's meeting include: Current Therapy 1958; Florey: Pathology; Welch & Powers: The Essence of Surgery; Andresen: Gastroenterology; Beckman: Drugs—Their Nature, Action and Use; Levine: Clinical Heart Disease; and Novak & Novak: Gynecologic and Obstetric Pathology.

R. L. SCHERER COMPANY Sunset Room
Los Angeles . Booth 22

SCHERING CORPORATION Boulevard Room
Bloomfield, New Jersey Booth 102

The Schering exhibit will feature Trilafon, extremely potent tranquilizer and antiemetic, capable of alleviating manifestations of emotional stress without apparent dulling of mental acuity.

Extraordinary potency in behavioral effects without corresponding increase in autonomic hematologic or hepatic side effects provides a favorable therapeutic ratio and excellent versatility in clinical use.

G. D. SEARLE & CO. Sunset Room
Chicago, Illinois Booth 52

You are cordially invited to visit the Searle booth where our representatives will be happy to answer any questions regarding Searle Products of Research.

Featured will be Enovid, the new synthetic steroid for treatment of various menstrual disorders; Zanchol, a new biliary abstergent; Nilevar, the new anabolic agent, and Rolicton, a new safe, nonmercurial oral diuretic.

Also featured, will be Vallestril, the new synthetic estrogen with extremely low incidence of side reactions; Pro-Banthine, the standard in anti-cholinergic therapy; and Dramamine, for the prevention and treatment of motion sickness and other nauseas.

SEVEN-UP BOTTLING COMPANY Sunset Room
Los Angeles Booth 38

Welcome to all delegates and guests. Stop at our booth and "Fresh up with 7-Up!" While you are relaxing look over our coin-controlled vender, especially designed for office use.

SHELLEY PROFESSIONAL PRODUCTS, INC. Boulevard Room
Los Angeles Booth 78

Shelley "All Formica" Futura Examining and Treatment Room Furniture. Shelley is first to introduce Examining Room Furniture in All Formica to the Medical Profession. Revolutionary—Entirely New in design. Lifetime Construction—Lifetime in Beauty. All Formica saves many hours of upkeep and many dollars in rehabilitation. Shelley also manufactures Instrument Cabinets—Treatment Cabinets — Waste Receptacles — Operator's Stools. All Accessories in All Formica, Shelley Futura "All Formica" Furniture is furnished in Blond-Coral-Blue and Green.

SMITH, KLINE & FRENCH LABORATORIES Sunset Room
Philadelphia, Pennsylvania Booth 23

S.K.F. Representatives will be happy to discuss with you two new long-acting products for ulcer and other g.i. disorders, 'Darbid' Tablets and 'Combid' *Spansule* capsules. 'Darbid' (isopropamide, S.K.F.) is a potent new anticholinergic with inherent long-lasting effects. 'Combid' combines 'Darbid' with 'Compazine' (S.K.F.'s outstanding tranquilizer and antiemetic) in sustained release form. Both products offer b.i.d. dosage convenience and protect the patient all day and all night. The S.K.F. booth also features injectable solutions of 'Compazine' and 'Thorazine' in the new Multiple Dose Vials.

E. R. SQUIBB & SONS Sunset Room
New York, New York Booth 49

E. R. Squibb & Sons has long been a leader in development of new therapeutic agents for prevention and treatment of disease. The results of our diligent research are available to the Medical Profession in new products or improvements in products already marketed.

At booth No. 49, we are pleased to present up-to-date information on these advances for your consideration.

J. W. STACEY COMPANY Ballroom
San Francisco Booth 56

THE STUART COMPANY Boulevard Room
Pasadena Booth 100

SWIFT & COMPANY Sunset Room
Chicago, Illinois Booth 50

TESTAGAR & CO., INC. Sunset Room
Detroit, Michigan Booth 20

Testagar & Co., Inc., will introduce Q Caps-Amodex, the newest development in Timed Disintegrating capsules. Each Q Cap-Amodex contains 15 mg. of Dextro-Amphetamine HCl and 60 mg. Amobaribital USP. The material is placed in four specially coated and colored tablets within the capsule. The first tablet (Red) starts to disintegrate immediately, releasing 5 mg. of Dextro-Amphetamine HCl and 20 mg. of Amobarbital USP. The second tablet (White) releases 2½ mg. of Dextro-Amphetamine HCl and 10 mg. Amobarbital USP, in approximately two hours. The third tablet (Yellow) contains the same and is released at approximately four hours. The fourth tablet (Blue) contains 5 mg. Dextro-Amphetamine HCl and 20 mg. Amobarbital USP and is released in approximately six hours. The patient enjoys release of medication over a 10 to 12 hour period. The timing of the tablets is much more exact than is possible with little pellets. This newest form of Timed Disintegrating medication (Patent Pending) affords the patient a greater consistency and uniformity of released medication and considerable less complaint of side-reactions. Felsules (Chloral Hydrate Capsules), will also be shown.

THURSTON LABORATORIES, INC. Boulevard Room
Los Angeles Booth 99

Recent investigations indicate Ascorbic acid-Citrus Bioflavonoid therapy, in the form of Thurston's AMITIN or BIO-C formulae, to be of interest and value to the General Practitioner and Internist, as well as to the Surgeon and the Obstetrician.

With more than 35 years experience in pharmaceutical work, including some 70 accepted and published research papers, Thurston Laboratories will offer information and samples on the above products.

Current investigations on the evaluation of a Biochemical formula for experimental clinical use in the treatment of Peptic Ulcers will be reported.

Qualified personnel will be present to discuss products and problems pertaining to your practice.

U. S. VITAMIN CORPORATION Boulevard Room
New York, New York Booth 106

NEW—on display—ARLIDIN, the safe vasodilator drug with three unique pharmacologic actions: (1) dilates predominantly small blood vessels of skeletal muscle, (2) increases cardiac output without significant increase in pulse rate, (3) promotes greater circulating blood volume. Thus, ARLIDIN (Nylidrin HCl. NNR) is indicated in treating intermittent claudication in arteriosclerosis obliterans, thromboangiitis obliterans, and diabetic vascular disease; also effective in Raynaud's Syndrome and ischemic ulcers.

Professional samples and literature distributed also on our complete line of nutritional and pharmaceutical specialties.

THE UPJOHN COMPANY Sunset Room
Kalamazoo, Michigan Booth 51

WALKER LABORATORIES, INC. Sunset Room
Mount Vernon, New York Booth 53

VIACETS, HEDULIN, BACIMYCIN PRODUCTS, PRE-CALCIN and PRECALCIN LACTATE will be displayed at the Walker booth. VIACETS are multivitamin chewable CANDISPHERES available in five fresh fruit flavors—each flavor presented in its own color. HEDULIN is the oral anticoagulant described in recent papers and complete reprint portfolios will be available to all registered physicians.

WALLACE LABORATORIES Boulevard Room
New Brunswick, New Jersey Booth 104

Wallace Laboratories will feature these drugs at booth No. 104:

MILTOWN—A proven tranquilizer, MILTOWN relieves both anxiety and muscle tension. Its toxicity is low, side effects minimal and it is well suited for prolonged therapy.

MILPATH—The tranquilizing action of MILTOWN with an anticholinergic agent manages both the psychogenic element and somatic symptoms of disorders of the gastrointestinal tract.

DEPROL—An antidepressant, consisting of MILTOWN and benactyzine. To be used before electroshock therapy and for mildly depressed patients.

WALLACE LABORATORIES Sunset Room
University of Michigan Studies Booth 31

"BEHAVIORAL EFFECTS OF MEPROBAMATE ON NORMAL SUBJECTS"—Donald G. Marquis, E. Lowell Kelly, James G. Miller, Ralph W. Gerard, Anatol Rapoport, University of Michigan.

The effects of meprobamate on driving ability, steadiness and vision among 50 normal subjects are shown. Testing material used for this study including Orthorator, Whipple Steadiness and American Automobile Association Driving tests are available for trial use.

WARNER-CHILCOTT LABORATORIES Sunset Room
Morris Plains, New Jersey Booth 36

The Warner-Chilcott booth will feature Pacatal, a unique new phrenotropic agent. Pacatal's tranquilizing effect is unique because it produces a deeper calm with sedation. In depressed patients, Pacatal unlike other ataractic agents, produces a decided euphorogenic effect. Pacatal permits a normal active life to the tense. anxious or disturbed patient. Side effects are minimal with Pacatal, and its dosage schedule is simple and convenient for the patients.

Warner-Chilcott will also feature Peritrate. Peritrate Sustained Action is a new dosage form of the long-acting coronary vasodilator, Peritrate, for the first time the angina patient is provided with round-the-clock protection against attack.

WESTERN SURGICAL SUPPLY CO. Ballroom
Los Angeles Booths 65 and 66

WHITE LABORATORIES Boulevard Room
Kenilworth, New Jersey Booth 77

WINTHROP LABORATORIES Boulevard Room
New York, New York Booth 95

WOODSIDE ACRES HOSPITAL Ballroom
Redwood City Booth 9

Woodside Acres Hospital is a facility designed and built exclusively for the treatment of alcoholism by use of the Conditioned Response Therapy with supportive psychological therapy.

OFFICERS AND DELEGATES

General Officers

FRANK A. MacDONALD, Sacramento	President
FRANCIS E. WEST, San Diego	President-Elect
JAMES C. DOYLE, Beverly Hills	Speaker of House of Delegates
J. NORMAN O'NEILL, Los Angeles	Vice-Speaker of House of Delegates
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DWIGHT L. WILBUR, San Francisco	Editor
JOHN HUNTON	Executive Secretary
PEART, BARATY & HASSARD	Legal Counsel

House of Delegates—55th Annual Session

TOTAL DELEGATES (365)

DELEGATES EX-OFFICIO (42)

Frank A. MacDonald, Sacramento	President
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J. Norman O'Neill, Los Angeles	Vice-Speaker of House of Delegates
Donald D. Lum, Alameda	Chairman of Council
Albert C. Daniels, San Francisco	Secretary-Treasurer
Dwight L. Wilbur, San Francisco	Editor
James C. MacLaggan (1958)	Councilor 1st District
Omer W. Wheeler (1959)	Councilor 2nd District
Paul D. Foster (1960)	Councilor 3rd District
E. E. Wadsworth, Jr. (1958)	Councilor 4th District
Robert O. Pearman (1959)	Councilor 5th District
Donald C. Harrington (1960)	Councilor 6th District
James H. McPharlin (1958)	Councilor 7th District
Samuel R. Sherman (1959)	Councilor 8th District
Donald D. Lum (1960)	Councilor 9th District
Warren L. Bostick (1958)	Councilor 10th District
Ralph C. Teall (1959)	Councilor 11th District
Werner F. Hoyt (1958)	Councilor-at-Large
Edward C. Rosenow, Jr. (1958)	Councilor-at-Large
Arthur A. Kirchner (1959)	Councilor-at-Large
T. Eric Reynolds (1959)	Councilor-at-Large
Arthur E. Varden (1960)	Councilor-at-Large
Ivan C. Heron (1960)	Councilor-at-Large

ELECTED DELEGATES (323)

Alameda-Contra Costa County (27)

Delegates	*Alternates*
Allen, Dorothy M.	Bagley, Richard
Attwood, C. J.	Bartlett, J. C.
Baxter, Philip N.	Bell, Dudley
Benson, K. W.	Bogart, William
Blum, John	Bryan, Charles
Cobb, B. Otis	Chapman, Robert W.
Crockett, H. C.	Cronenwett, Paul
Crum, R. Abbott	Dimmler, Charles L., Jr.
Dodds, Donald	Etheredge, Samuel
Dozier, Thomas J.	Ferrier, Philip
Dugan, David	Fornoff, Homer
Ellis, Grant	Harms, Herbert E.
Fraser, L. H.	Hart, Charles
Gadwood, Bernard B.	Hoskins, H. Dean
Graeser, James B.	Irvine, George S.
Hadden, Malcolm	Jones, William G. A.
Harvey, Harold	Kerns, Claude L.
Hudson, Charles	Lamb, Gordon R.
Kaiser, William	Langstroth, Lovell, Jr.
Kern, Max	Pfefer, Lionel
Leet, Robert S.	Royce, Byron
Maloney, Harold P.	Slattery, Robert
Morrison, John G.	Snook, Helen Jean
Richards, Dexter, Jr.	Spidell, Haydon J.
Thebaut, Maxwell M., Jr.	Stephens, Bruce
Truman, Stanley R.	Taines, Robert
Tucker, Dan	Weeden, William

Butte-Glenn County (2)

Delegates	*Alternates*
Elmendorf, Thomas	Chiapella, William C.
Lawrence, W. Sherwood	Weinbaum, Jerome

Fresno County (5)

Delegates	*Alternates*
Argo, W. L.	Ford, Joseph B.
Howard, Arthur F.	Hongola, Russell I.

Fresno County (continued)

Delegates	*Alternates*
Murray, John F.	Kass, Robert
Smith, Robb	Kazato, H. H.
Vaughan, Robert	Logan, J. A.

Humboldt County (2)

Delegates	*Alternates*
Olson, Fred A.	Eley, James S.
O'Neil, Francis H.	Poska, Theodore A.

Imperial County (2)

Delegates	*Alternates*
Richardson, Gene T.	Irwin, Willis
Streuter, Milton A.	Westcott, Robert J.

Inyo-Mono County (2)

Delegates	*Alternates*
Hough, Victor	Curtis, C. C.
Scott, C. L.	Peters, Claude F.

Kern County (4)

Delegates	*Alternates*
Ogden, Roderick A.	Ellis, John F.
Patrick, Robert A.	Forney, Robert
Strongin, Seymour	Reese, Thomas V.
Vaughan, J. E.	Seibly, J. S.

Kings County (2)

Delegates	*Alternates*
Chamlee, William F.	Bridwell, W. S.
Sorensen, N. F.	Kerr, E. E.

Lassen-Plumas-Modoc County (2)

Delegates	*Alternates*
Bross, Willard S., Jr.	Bleiberg, Donald J.
Burnett, C. I.	Quinn, William J.

Los Angeles County (128)

Delegates	Alternates
Albaugh, Clarence H.	Abbey, John D.
Alesen, Lewis A.	Adams, Lawrence
Alsberge, Marden A.	Albin, Myer Stanley
Andrews, Herbert J.	Ambler, A. Carleton
Anhalt, James E.	Bailey, Arthur T.
Asher, Leonard M.	Ballard, William R.
Bailey, Wilbur	Beahm, E. L.
Beatty, Geneva	Beckner, George L.
Beebe, Edson D.	Beckner, Gordon B.
Beers, Reid L.	Bigler, Roscoe B.
Bennett, Terry C.	Bills, Jack W.
Berne, Clarence J.	Blong, Peter H.
Boehme, Earl J.	Bowen, Gordon T.
Bonynge, Thomas W.	Boyd, Harold
Bradford, Fred E.	Boyd, Robert I.
Bullock, Lewis T.	Brayton, Donald F.
Carter, Robert V.	Briney, Allan K.
Caruso, Tenero D.	Brobeck, David J.
Cherry, Clifford B.	Brown, George E.
Clay, Joseph B.	Bumpus, L. Dudley
Coffelt, R. Wendell	Burns, James J.
Conti, James G.	Bushnell, Lowell F.
Cook, Wells C.	Cardey, Norman L.
Cooper, Finis G.	Carlson, Carroll C.
Cosgrove, Jay B.	Case, Walter G.
Craig, Lyle G.	Cole, Seymour L.
Crane, Edward H., Jr.	Collins, Mary Ellen
Crane, Jay J.	Cronemiller, Ray E.
Crowl, Verne C.	Crosby, William E., Jr.
Cunnane, Philip J.	Crosley, Willard B.
Dalton, Burr	Crowe, Harold E.
Desimone, Leon O.	Culbertson, John A.
Doyle, James C.	Donath, Douglas
Drury, Robert B.	Eardley, Gene P.
Durnin, William G.	Eastham, Gerald M.
Einstein, Robert A. J.	Edwards, Benjamin F.
Emerson, Charles V.	Evans, William D.
Ewens, Frederic	Failing, Joseph Henry
Ewing, John Paul	Forde, Wells E. A.
Feldman, A. William	Fortmann, Daniel J.
Fisher, Gaylord L.	Foster, Percy A.
Foster, Paul D.	Franklin, L. Ben
Foster, Vernon W.	Garrison, William P.
Gairdner, Thomas M.	Gaspard, Frederic J.
Goodhill, Victor	Gilfillan, Charles
Goodman, Adrian B.	Glazier, McCleery
Gooel, Elmer F.	Gordon, Norman W.
Graham, William E.	Grubbs, William E.
Gunther, Lewis	Hallstone, Victor E.
Haining, Robert B.	Harris, George S.
Hamilton, John B.	Haschka, August J., Jr.
Hanson, Paul J.	Heckel, Donald Q.
Hill, Lowell R.	Henry, William
Hill, Malcolm R.	Hickey, N. Glenn
Hoagland, Paul I.	Hiemstra, Wybren
Hoffman, Eugene F.	Hutter, Charles G.
Hohl, Elizabeth Mason	Irwin, Ralph L.
Hope, Robert B.	Johnson, Moulton K.
Horner, Howard E.	Jones, Ellis W., Jr.
Howard, Harold G.	Judd, George E.
Huff, Louis L.	Judkins, Lance W.
Johnson, Fordyce	Kaftan, Ludwig L.
Kaplan, Louis H.	Kaller, Robert G.
Keller, Ernest A., Jr.	Karp, Mark L.
Kelley, Walter William	Kaufman, Reuben L.
Kredel, Richard A.	Kelly, Robert F.
Kristiansen, Clarence T.	Klingbeil, Jerome R.
Laughlin, T. Jackson	Knupp, Wilber S.
Levy, Charles C.	Krouse, John A.
Lloyd, O. Dale	Kuris, David B.
Lomas, Jack B.	Lange, Henry J.
Loopesko, Eugene	Laue, Richard J.
Luck, J. Vernon	Lecky, Jim H.
Ludwig, J. Lafe	Le Moncheck, Edward
Macdonald, Ian	Linsman, Joseph F.
Marmor, Judd	Lynn, Theodore A.
Mauer, Edgar F.	Marmelzat, Willard L.
McBane, J. Kendall	Marmer, Milton J.
McCausland, A. M.	Masters, Harold
McDonald, Angus C.	McClure, Ross T.
McIntyre, Charles H.	McDowell, Allyn J.
McNair, J. Douglas	McNeil, Robert J.
McQueen, John B.	McNiel, Edwin E.
Merchant, Edward B. Jr.	Mead, William W.
Mooney, Herbert S.	Meyers, Marvin H.
Morrow, James J.	Morey, Gordon R.
Mortensen, Elmer S.	Neale, Roderick M.
Mueller, Edward, Jr.	Nixon, Richard W.
Mumler, William C.	Otto, Frank W.
Nation, Earl F.	Pallette, Edward C.
Nugent, Maurice W.	Paxton, Frank F.
Padgett, W. DeGrove	Payne, J. Howard
Petersen, Harold E.	Penn, Sidney W.
Pheasant, Homer C.	Petit, Donald W.
Prichard, Hubert J.	Pettit, Richard D.
Quinn, William F.	Plimpton, Edwin B.
Regan, James F.	Pollack, John V.
Reyes, J. M. de los	Rabwin, Marcus H.
Rogers, Wilbur G.	Rolland, Ward M.
Rolf, Bruce B.	Ross, Mathew
Root, Donald H.	Rouff, Elliott A.
Ruddock, John C.	Russell, John Anthony
Salkin, Murray R.	Sanford, Harold E.
Sampson, J. Philip	Schaeffer, Richard C.
Schroeder, Ralph L.	Schepeler, Theodore V.
Scott, Walter	Shepherd, Allen E.
Semenov, Herman Z.	Sinay, Henry R.
Shaw, Gerald W.	Smitter, Robert C.
Shelton, Robert M.	Stanton, Frank E., Jr.
Shery, Kurt T.	Starr, Paul
Smart, Reginald H.	Stephens, John S.
Smith, Burton	Stragnell, Robert
Smith, Gordon K.	Thomason, Sidney D.
Snodgrass, Wilfred	Thurber, Packard, Jr.
Sommer, Melvin L.	Toy, Arthur J.
Sprague, Norman F., Jr.	Tuohy, Edward B.
Stern, Robert Leo	Turbow, Arthur O.
Stokesbary, Delbert L.	Wadsworth, E. E., Jr.
Sumner, Robert H.	Warren, Earle M.
Todd, Malcolm	Watson, Robert L., Jr.
Tyroler, Frederic N.	Weber, Robert A.
Van Dyke, H. Milton	Welton, Walter F.
Ware, E. Richmond	Wharton, George K.
White, Carroll W.	Wigod, David
Wilson, Warren A.	Williams, Herbert F.
Wiltse, Leon L.	Wilmoth, M. Edward
Witherbee, Harold R.	Woodhull, Franklin E.
Wood, Howard A.	Zell, Harry J.

Madera County (2)

Delegates	Alternates
Hall, Gordon C.	Braun, Lester
Quimby, Smith	Cohlan, W. R.

Marin County (3)

Delegates	Alternates
Goebel, James	Fowler, Donald C.
O'Rourke, Paul F.	
Wagner, Dallas L.	

Mendocino-Lake County (2)

Delegates	Alternates
Hill, Thomas P.	Allanson, Patrick
Massengill, James B.	Smalley, Robert B.

Merced County (2)

Delegates	Alternates
McDowell, B. E.	Holm, Richard P.
Medefind, J. N.	Udall, Addison R.

Monterey County (3)

Delegates	Alternates
Clark, Howard E.	Husser, Horace
Englehorn, T. D.	Miles, Howard C.
Mitchell, Allen	Moore, Chester G.

Napa County (2)

Delegates	Alternates
Brignoli, Walter H.	Oliver, Wrenshall A.
Marchus, Donald B.	Rose, Edgar Kash

Orange County (8)

Delegates	Alternates
Donaldson, A. Norton	Altman, Richard F.
Galbraith, Harold F.	Hanigan, Thomas E.
Gendel, Samuel	Mason, Bernard
Hunt, Frederick T.	Mathes, Larry B.
Price, J. B.	Pettis, Emmett M.
Whittaker, L. F.	Preston, Richard A.
Wickett, William H., Jr.	Specht, Oswald S.
Wilson, L. E.	Struve, Edgar E.

Placer-Nevada-Sierra County (2)

Delegates	Alternates
Dubin, Nathan	Hummelt, B. W.
Joye, K. M.	Kindopp, D. M.

Riverside County (4)

Delegates	Alternates
Batzle, J. Harold	Abbott, Donald
Boylan, Richard N.	Clark, Fred
Hamilton, Van R.	Fitzmorris, Andrew
Stone, H. H.	Garcia, Robert

Sacramento County (8)

Delegates	Alternates
Berman, A. E.	Berg, John
Chambers, J. V.	Burkland, Carl E.
Dozier, Dave F.	Frame, Paul W.
Grayson, Charles E.	Johnson, Richard L.
Horn, C. E.	Kilroy, Dan O.
Martin, James W.	Pope, Glenn A.
Rovane, J. W.	Schiro, Frank G.
Yant, James H.	Tainter, E. G.

Delegates	*Alternates*
San Benito County (2)	
Moore, E. N.	Haruff, John J.
Taylor, Kent	Sheldon, E. C.
San Bernardino County (7)	
Coughlin, John H.	Cover, William L.
Hadley, Carl M.	Crutcher, Luke
Martin, J. Needham	Halburg, C. T.
Melone, Frank C.	Hoag, L. G.
Miano, Ben D. A.	Marsh, Norman E.
Pelkey, George L.	Ogden, Wendell L.
Sprague, Charles P.	Spelman, George M.
San Diego County (15)	
Carpenter, Walter F.	Averill, Roy S.
Fairchild, L. H.	Feeney, Michael J.
Hall, Winston C.	Hanna, Curtis M.
Hokr, William K.	Irwin, James B.
Hyde, Charles R.	Knott, James I.
Isenhour, Roger C.	Maggio, Guy
King, Ralph M.	Marshall, Glenn L.
Moore, A. E.	Mullenix, Ralph B.
Newman, Willard H.	Nickel, Walter R.
Ouer, Roy A.	Peck, Samuel G.
Phalen, James R.	Plumb, Robert T.
Robinson, Frank H.	Rumsey, Eugene W.
Rumsey, John M.	Skeoch, Gordon D.
Tancredi, Chester	Soldmann, W. T.
Telford, Joseph W.	Youel, Milo A.
San Francisco County (32)	
Aggeler, Paul	Bailly, T. Edward, Jr.
Burnham, DeWitt K.	Bazzano, John J.
Callaway, Claude P.	Clark, W. Dayton
Campbell, Donald M.	Colyear, Bayard H., Jr.
Campbell, Douglas G.	Cook, Robert E.
Castro, Amos	Cowan, John F.
Combs, Robert C.	Danno, Dorothy P.
Cox, Francis J.	Fraser, Alexander F.
Fenlon, Roberta	Gobar, Robert F.
Garland, L. Henry	Hartwig, Arthur R.
Gibbons, Henry, III	Hopp, Eugene S.
Greene, W. Wallace	Hurwitz, Samuel
Henry, Margaret	Jergesen, Floyd H.
Herzog, George K., Jr.	Long, Albert E.
Hosmer, Matthew N.	McKenzie, Roger B.
Jacobs, Alvin H.	O'Gara, Louis A.
Leach, Charles W.	Olsen, Elwood R.
Lebo, Charles	Palmer, Richard
Moffitt, Herbert C., Jr.	Pearl, Felix
Musser, Don C.	Plate, Agnes G.
Noble, Charles A., Jr.	Rees, Rees B.
Olney, Mary B.	Robinson, Saul J.
Rixford, Emmet L.	Rosenberg, Alan J.
Rochex, Francis	Sirbu, A. B.
Saunders, John B. de C. M.	Strange, Vance M.
Schaupp, John B.	Sumner, William A.
Schaupp, Karl L., Jr.	Thompson, James H.
Schottstaedt, E. R.	Torassa, George L.
Wayburn, Edgar	Trauner, Lawrence M.
Willett, Forrest M.	Wagner, William F.
Williams, A. Justin	Webb, Eugene
Woo, Henry B.	Wienholz, Paul
San Joaquin County (4)	
Armanino, Louis P.	Blinn, John F., Jr.
Benn, James J.	Lee, Dora Ames
Mayo, John F.	Longley, J. E.
Noetling, Paul R.	McNally, John T.
San Luis Obispo County (2)	
Middleton, Joseph G.	Dunklee, George K.
Smith, J. Barry	Ferris, Chalmer W.
San Mateo County (9)	
Allen, James R.	Armstrong, Charles D.
Brownson, Bradley C.	Boudett, Daniel
Fox, Norman C.	Brown, Henry A.
Haerem, Alf T.	Gray, Logan
Hedden, Alan M.	Moore, Ferrall H.
Miller, A. G.	Novak, Frank J.
Ray, Hartzell H.	Saidy, John T.
Shidler, Frederic P.	Sawtell, James
Smith, Harry F.	Thompson, William H.
Santa Barbara County (4)	
Cord, Robert I.	Brown, Harry E.
Miles, Harold	Burgess, Leonard B.
Olsen, Arthur	McNiece, Kenneth
Riparetti, P. Paul	Nelson, Lawrence

Delegates	*Alternates*
Santa Clara County (12)	
Boice, Clyde	Barrette, Pierce C.
Carlson, Carl O.	Burchfiel, Robert
Cary, J. Alison	Duisenberg, Charles E.
Davis, Burt	Elmore, Ernest F.
Dennis, Robert	Giansiracusa, Joseph E.
Felsovanyi, A. S.	Kaufman, S. Fred
Foster, Thomas N.	Meyer, Vincent S.
Fox, Leon P.	Mitchell, Sidney
Houck, George H.	Olson, Ray N.
Liston, Edward	Randle, Harold Y.
Morton, Paul V.	Scarborough, C. Gerald
Snyder, J. Frederic	Vaughan, Daniel G.
Santa Cruz County (2)	
Newhall, Luther	Cress, William
Spencer, James	Selzer, Ludwig
Shasta-Trinity County (2)	
Jantzen, Roland R.	Martin, George A.
Ryan, Edward D.	Woolf, Norman T.
Siskiyou County (2)	
Bayuk, R. W.	Reynolds, Joseph
Hoyt, Werner	Thompson, Victor
Solano County (2)	
Green, John W.	Jones, F. Burton
O'Donnell, Bernard V.	Smith, M. B.
Sonoma County (3)	
Johnson, Cedric C.	Lones, Frank E.
Robbins, R. Dee	Norman, Frank W.
Weber, Walter E.	Thurlow, A. A., Jr.
Stanislaus County (3)	
Hatch, Francis N.	Radcliff, Robert R.
New, David J.	Reimer, Frank
Spelmann, J. Lyle	Treadwell, Richard R.
Tehama County (2)	
Ingle, G. W.	Frey, Russell G.
Wolfe, L. E.	Wilson, E. R.
Tulare County (2)	
Feldmayer, James E.	Badertscher, Victor A.
Karstaedt, Robert	Miller, Ralph N.
Ventura County (2)	
Helbling, Franklin K.	Huff, W. Cloyce
Moore, J. W.	Nelson, James H.
Yolo County (2)	
Kimbell, James	Cooper, Thomas Y.
Railsback, Oscar C.	Robinson, Benjamin R.
Yuba-Sutter-Colusa County (2)	
Parkinson, Stanley R.	Belz, John F.
Wisner, Francis P.	Billman, Howard

PAST PRESIDENTS (19)

Ewer, Edward N.	1925
Harris, Junius B.	1931
Reinle, George G.	1933
Peers, Robert A.	1935
Wilson, Harry H.	1940
Molony, William R., Sr.	1942
Schaupp, Karl L.	1943
Goin, Lowell S.	1944
McClendon, Sam J.	1946
Cline, John W.	1947
Askey, E. Vincent	1948
Kneeshaw, R. Stanley	1949
Cass, Donald	1950
MacLean, H. Gordon	1951
Alesen, Lewis A.	1952
Green, John W.	1953
Morrison, Arlo A.	1954
Shipman, Sidney J.	1955
Charnock, Donald A.	1956

House of Delegates Agenda

1958 Annual Session

Embassy Room, Ambassador Hotel

Speaker	James C. Doyle, Beverly Hills
Vice-Speaker	J. Norman O'Neill, Los Angeles
Secretary	Albert C. Daniels, San Francisco

FIRST MEETING

Sunday, April 27, at 9:30 a.m.

ORDER OF BUSINESS

1. Call to order.
2. Report of Committee on Credentials, and Organization of the House of Delegates.
3. Roll call.
4. Announcement and approval of Reference Committees.
    - (*a*) Committee on Credentials. (Delegates must register with the Committee.)
    - (*b*) Reference Committee on the Reports of Officers, the Council, the Commissions, and Standing and Special Committees. (Reference Committee No. 1.)
    - (*c*) Reference Committee on Finance, to review the reports of the Secretary-Treasurer and the Executive Secretary and to study and make recommendations to the House of Delegates on the budget submitted by the Council and the amount of dues for the ensuing year. (Reference Committee No. 2.)
    - (*d*) Reference Committee on Resolutions and New and Miscellaneous Business. (Reference Committee No. 3.)
    - (*e*) Reference Committee on Amendments to the Constitution and By-Laws. (Reference Committee No. 4.)
    - (*f*) Reference Committee on C.P.S. Business.
5. Address by President of the Woman's Auxiliary to the C.M.A.—Mrs. Leonard D. Offield, Hillsborough.
6. Address by President Frank A. MacDonald—Presentation of 50-Year Awards.
7. Miscellaneous announcements by the Speaker. (Stenographic service to secure copies of resolutions, etc.)
8. Report of the President—Frank A. MacDonald.
9. Report of the President-elect—Francis E. West.
10. Report of the Speaker of the House of Delegates—James C. Doyle.
11. Report of the Vice-Speaker of the House of Delegates—J. Norman O'Neill.
12. Report of the Trustees of the California Medical Association—Frank A. MacDonald, President.
13. Report of Physicians' Benevolence Fund, Inc.—Frank A. MacDonald, President.
14. Report of the Secretary—Albert C. Daniels.
15. Report of the Treasurer—Albert C. Daniels.
16. Report of the Editor—Dwight L. Wilbur.
17. Report of the Executive Secretary—John Hunton.
18. Report of Legal Counsel—Peart, Baraty and Hassard.
19. Report of the Executive Committee—Ivan C. Heron, chairman.
20. Report of the Council—Donald D. Lum, chairman.
21. Reports of District Councilors.
22. Reports of Councilors-at-Large.
23. Report of C.P.S. Board of Trustees—T. Eric Reynolds, president.
24. Reports of Commissions.
    - (*a*) Cancer Commission—John W. Cline.
    - (*b*) Commission on Medical Education—Edward C. Rosenow, Jr.
        - (1) Committee on Blood Banks—Andrew M. Henderson, Jr.
        - (2) Committee on Industrial Health—Jerome Shilling.
        - (3) Committee on Medical Education and Hospitals—Walter E. Macpherson.
        - (4) Committee on Mental Health—Mathew Ross.
        - (5) Committee on Postgraduate Activities—Edward C. Rosenow, Jr.
        - (6) Committee on Rehabilitation—Francis M. McKeever.
    - (*c*) Commission on Medical Services—H. Gordon MacLean.
        - (1) Committee on Fees—Francis J. Cox.
        - (2) Committee on Government-Financed Medical Care Programs—John M. Rumsey.
        - (3) Committee on Indigent and Aged—C. L. Cooley.
        - (4) Committee on Medical Economics — Robert Shelton.

- (*d*) Commission on Professional Welfare—Carl Hadley.
    - (1) Committee on Health and Accident Insurance—Arthur A. Kirchner.
    - (2) Medical Review and Advisory Board—Carl Hadley.
- (*e*) Commission on Public Health and Public Agencies—Warren L. Bostick.
    - (1) Committee on Maternal and Child Care—Donald C. Harrington.
    - (2) Committee on Military Affairs and Civil Defense—Justin J. Stein.
    - (3) Committee on Other Professions—Wayne Pollock.
    - (4) Committee on Rural and Community Health—Robb Smith.
    - (5) Committee on School Health—Albert C. Daniels.
    - (6) Committee on State Medical Services—Warren L. Bostick.
    - (7) Committee on Veterans Affairs—Berthel H. Henning.
- (*f*) Commission on Public Policy—Dan O. Kilroy.
    - (1) Committee on Legislation—Dan O. Kilroy.
    - (2) Committee on Public Relations—Sidney J. Shipman.
- (*g*) Judicial Commission—Donald A. Charnock.

25. Reports of Standing Committees.
    - (*a*) Auditing Committee—Ivan C. Heron.
    - (*b*) Committee on Scientific Work—Albert C. Daniels.
    - (*c*) Medical Executives Conference—John Hunton.

26. Reports of Special Committees.
    - (*a*) Committee on History and Obituaries—J. Marion Read.
    - (*b*) Constitution Study Committee—Sam J. McClendon.
    - (*c*) Delegates to the A.M.A.—Donald Cass.

27. Old and unfinished business.
    - (*a*) Constitutional amendment.

28. New Business.

SECOND MEETING

Wednesday, April 30, at 9:30 a.m.

Order of Business

1. Call to order.

2. Supplemental report of Credentials Committee.

3. Roll call.

4. Secretary's announcement of Council's selection of time and place for the 1959 annual session.

5. Election of officers:
    - (*a*) President-elect.
    - (*b*) Speaker.
    - (*c*) Vice-speaker.
    - (*d*) District Councilors (three-year terms):
        - (1) First District—James C. MacLaggan, San Diego (term expiring).
          First District—San Diego county.
        - (2) Fourth District—E. E. Wadsworth, Jr., Alhambra (term expiring).
          Fourth District—Los Angeles county.
        - (3) Seventh District—James H. McPharlin, Salinas (term expiring).
          Seventh District—Monterey, San Benito, San Mateo, Santa Clara, and Santa Cruz counties.
        - (4) Tenth District—Warren L. Bostick, San Rafael (term expiring).
          Tenth District—Del Norte, Humboldt, Lake, Marin, Mendocino, Napa, Solano, and Sonoma counties.
    - (*e*) Councilors-at-Large (three-year terms):
        - (1) Werner F. Hoyt, Mt. Shasta (term expiring).
        - (2) Edward C. Rosenow, Jr., Pasadena (term expiring).
    - (*f*) Delegates to the American Medical Association:
      Delegates and Alternates to the American Medical Association are elected for terms of two calendar years. The Delegates and Alternates to be elected at this meeting will serve for two calendar years starting January 1, 1959.
      Incumbents:
        - (1) Leopold H. Fraser, Richmond (term expiring).
        - (2) E. Vincent Askey, Los Angeles (term expiring).
        - (3) Dwight L. Wilbur, San Francisco (term expiring).
        - (4) Donald Cass, Los Angeles (term expiring).
        - (5) J. Lafe Ludwig, Los Angeles (term expiring).
        - (6) R. Stanley Kneeshaw, San Jose (term expiring).
        - (7) C. J. Attwood, Oakland (term expiring).
        - (8) James E. Feldmayer, Exeter (term expiring).
    - (*g*) Additional Delegate to American Medical Association (new office). Term expires December 31, 1959.
    - (*h*) Alternates to the American Medical Association:
        - (1) Hartzell H. Ray, San Mateo (alternate to Leopold H. Fraser).
        - (2) Donald A. Charnock, Los Angeles (alternate to E. Vincent Askey).
        - (3) Francis J. Cox, San Francisco (alternate to Dwight L. Wilbur).
        - (4) J. Norman O'Neill, Los Angeles (alternate to Donald Cass).
        - (5) H. Milton Van Dyke, Long Beach (alternate to J. Lafe Ludwig).
        - (6) Burt Davis, Palo Alto (alternate to R. Stanley Kneeshaw).
        - (7) Arlo A. Morrison, Ventura (alternate to C. J. Attwood).
        - (8) E. C. Rosenow, Jr., Pasadena (alternate to James E. Feldmayer).
    - (*i*) Additional Alternate to American Medical Association (new office). Term ends December 31, 1959.

6. Election of C.P.S. Trustees (three-year terms):
   Report of C.M.A. Council as Nominating Committee.
   Incumbents:
   - (*a*) Dave F. Dozier, Sacramento.
   - (*b*) A. A. Morrison, Ventura.
   - (*c*) Rt. Rev. Monsignor Thomas J. O'Dwyer, Los Angeles.
   - (*d*) Mr. Thomas Hadfield, San Francisco.
7. Announcement by Secretary.
   Council's nominations of members of Commissions and Committees (for approval by the House of Delegates).
8. Reports of Reference Committees:
   - (*a*) Reports of Reference Committee No. 1 on Reports of Officers, the Council, Commission and Standing and Special Committees.
   - (*b*) Report of Reference Committee No. 2 on Reports of the Secretary-Treasurer, the Executive Secretary, and the budget and dues.
   - (*c*) Report of Reference Committee No. 3 on Resolutions and New and Miscellaneous Business.
   - (*d*) Report of Reference Committee No. 4 on Amendments to the Constitution and By-Laws.
   - (*e*) Report of Reference Committee on C.P.S. Business.
9. Unfinished business.
10. New Business.
11. Presentation of Officers:
    President
    President-elect
    Speaker
    Vice-speaker
12. Presentation of certificate to retiring president—Frank A. MacDonald.
13. Approval of minutes. (Committee to edit.)
14. Adjournment.

James C. Doyle, *Speaker*
Albert C. Daniels, *Secretary*

RESTAURANTS

Special arrangements have been made for meals to be served in the following locations

Sunday, April 27:

Lunch	Cocoanut Grove

Monday, April 28:

Lunch	Cocoanut Grove

Tuesday, April 29:

Dinner	Cocoanut Grove—President's Dinner Dance

Wednesday, April 30:

Lunch	Cocoanut Grove

Proposed Constitutional Amendment

Under the terms of the C.M.A. Constitution, amendments to the Constitution must lie on the table until "the next session, other than a special session, of the House of Delegates." During this interim the proposed Constitutional amendment must be published "at least twice in separate issues of the official journal of the Association." It was printed in the November 1957 and January 1958 issues of CALIFORNIA MEDICINE.

The proposed Constitutional amendment below was introduced at the 1957 session of the House of Delegates and will be considered and acted upon at the 1958 session of the House of Delegates. At that time, "if two-thirds of the Delegates present and voting vote in favor thereof, the same shall be adopted." (Article VIII, Section 3, Constitution.)

RESOLUTION

WHEREAS, The physician member population of the State of California has enjoyed tremendous growth in recent years; and

WHEREAS, These physician members are entitled to representation in the offices and council of the C.M.A.; and

WHEREAS, The Constitution of the C.M.A. as it is presently constituted, does not adequately provide this representation; and

WHEREAS, In order to grant all members the representation they are entitled to, the Constitution of the C.M.A. must be amended;

NOW, THEREFORE, The following amendments of the Constitution of the C.M.A. are herewith presented to this House of Delegates in accordance with Article VIII, Section 3, of said Constitution.

AMENDMENTS

ARTICLE III

Part B—Council

Section 9—Composition

The Council shall consist of:

(a) Each Councilor District, as specified in this Constitution, shall be entitled to one Councilor for each 1,000 members, according to its membership as of the first day of November of the preceding year; provided that each Councilor District shall be entitled to a minimum of one Councilor.

(b) The President, President-Elect, Speaker and Vice-Speaker.

In addition, the Secretary-Treasurer, and Editor, ex-officio, without the right to vote.

(c) District Councilors shall be elected from the Councilor Districts.

(d) Elected Councilors from any one District shall not, at any time, exceed forty per cent (40 per cent) of the total Council membership.

Section 10—Councilor Districts

There are ten districts as follows:

District Number One, comprising San Diego County.

District Number Two, comprising Imperial, Orange, Riverside, San Bernardino, Mono and Inyo Counties.

District Number Three, comprising the County of Los Angeles.

District Number Four, comprising Ventura, Santa Barbara and San Luis Obispo Counties.

District Number Five, comprising Kern, Kings, Tulare, Fresno, Madera, Mariposa, Merced, Stanislaus, San Joaquin, Calaveras and Tuolumne Counties.

District Number Six, comprising Monterey, San Benito, Santa Cruz, Santa Clara and San Mateo Counties.

District Number Seven, comprising San Francisco County.

District Number Eight, comprising Alameda County and Contra Costa County.

District Number Nine, comprising Marin, Solano, Napa, Sonoma, Lake, Mendocino, Humboldt and Del Norte Counties.

District Number Ten, comprising Sacramento, Amador, Alpine, Eldorado, Placer, Nevada, Sierra, Yuba, Sutter, Yolo, Colusa, Glenn, Butte, Plumas, Tehama, Trinity, Shasta, Lassen, Modoc and Siskiyou Counties.

Section 11—Election of Councilors

District Councilors shall be elected by vote of the delegates from each district in the manner and at the time specified in the by-laws; provided, however, that at the first meeting of the House of Delegates after a District Councilor has been selected, his name shall be submitted to the House by the delegates from the district, and (1) if there is no challenge by any delegate then the Speaker shall declare his election completed, and (2) if any delegate shall challenge the election on any ground, including fitness of the nominee of the district to serve as a District Councilor, the questions presented by the challenge shall be submitted to a Qualifications Committee consisting of the President, President-Elect and one delegate, appointed by the Speaker, from the Councilor District involved. The Qualifications Committee shall consider all grounds upon which the nominee is challenged and report back to the House. If the committee reports in favor of confirming the nominee's election, the Speaker shall declare him elected. If the committee reports against confirming the nominee's election, a three-fourths affirmative vote shall be necessary to sustain the report of the committee, in which event the nominee shall be ineligible to serve as the District Councilor and the delegates from the district shall immediately proceed to the selection of another nominee for the vacant office. If an adverse report of the Qualifications Committee is not sustained then the nominee shall be declared elected by the Speaker.

Section 14—Election of Councilors on Adoption of Amendments to This Constitution

Upon the adoption of Amendments to Article III, Part B, Sections 9, 10, 11 and 14 of this Constitution, the Delegates from each of the Councilor Districts shall proceed to elect District Councilors as follows:

At the annual meeting at which these Amendments to the Constitution are adopted, each District shall elect the number of Councilors to which the District is entitled, in accordance with Section 9, as amended, to serve for a term of three years.

Upon the adoption of the Amendments to this Constitution and the election of District Councilors, in accordance with the said Amendments, the terms of office of the Councilors-at-Large, holding office at the time of the adoption of the Amendments, will immediately cease and terminate.

PRE-CONVENTION REPORTS

Officers • Councilors • Committees

REPORTS OF GENERAL OFFICERS

REPORT OF THE PRESIDENT

To the House of Delegates:

During the past year the Council among its many activities attempted to raise its sights and take a long range view of the California Medical Association as a whole in order to anticipate and prepare for the needs of our rapidly growing organization. A survey of the entire California Medical Association organizational structure was conducted by experts partly with this aim in view and partly to continue democratic representation corresponding with present and future growth. The American Medical Association recently conducted a similar survey for the same purpose. In addition, a new building was purchased by the California Medical Association in order to permit expansion of the central offices without incurring excessive rental costs in future.

From an administrative standpoint these actions should improve our organizational structure, increase business efficiency and provide clear-cut centers for responsibility and control. From the standpoint of the individual physician they should permit more proportionate and democratic representation. This information should provide a clearer picture of the direction in which we are traveling and should prove extremely helpful in guiding our future course.

Respectfully submitted,

Frank A. MacDonald, *President*

REPORT OF THE PRESIDENT-ELECT

To the President and the House of Delegates:

It has been a pleasant privilege and a most rewarding experience to visit 25 Northern California county medical societies, last fall and this spring. All of the meetings were unusually well attended, primarily I believe because of the members' prime interest in the public assistance medical care program.

These meetings, which are also attended by district councilors, councilors-at-large and members of the Public Relations Department, provide an excellent opportunity for your president-elect to acquaint himself with the problems, as well as positive programs, of the county societies. Too, this exchange of information and ideas helps to keep the societies advised of C.M.A. action on various statewide matters. I believe it significant, for example, that the major criticisms and recommendations for improvement in the old age program, heard during these county meetings, were incorporated in the C.M.A. Council's statement to the Department of Social Welfare and to the C.M.A. membership in late January.

Several districts have already held caucuses of their delegations and they are to be commended for their early approach to inform their members of the above and other socio-economic matters.

Throughout these and future deliberations, it would appear that we can best represent all of medicine and maintain a high record of good medical care for all groups of patients if we consider the individual M.D. to be the common denominator.

As chairman of the C.M.A.'s Liaison Committee with the State Bar Association, it is a pleasure to report that important progress is being made in this field of medicolegal relations to provide panels of experts for plaintiff's attorneys in medical malpractice actions.

Respectfully submitted,

Francis E. West, *President-Elect*

REPORTS OF THE SPEAKER AND VICE-SPEAKER OF THE HOUSE OF DELEGATES

To the President and the House of Delegates:

Both your Speaker and Vice-Speaker are grateful for the opportunity to serve the California Medical Association and have attended all Council meetings throughout the year. Your Speaker has also attended all the Executive Committee meetings.

Your Speaker was requested by the House of Delegates in May, 1957, to appoint several committees to study several resolutions and report their findings at the 1958 meeting. The resolution name, number and members are herewith appended.

Constitution Study Committee, No. 2: Sam McClendon, chairman, San Diego; Robb Smith, Santa Clara; C. J. Attwood, Oakland; Matthew Hosmer, San Francisco; Carl Hadley, San Bernardino; Marden Alsberge, Glendale; James Moore, Ventura; Fred Olson, Fortuna; James Yant, Sacramento; Jay J. Crane, Los Angeles; Leslie Magoon, San Jose.

Adoption Committee, No. 41: Frances Holmes, chairman, Los Angeles; Russell Mapes, Beverly Hills; Joseph Telford, San Diego; Lee Fulton, Redding; Henry L. Tieche, Fresno; John Rovane, Sacramento; Agnes Plate, San Francisco.

Reorganization Committee, No. 24: Frederic Ewens, chairman, Manhattan Beach; John Cline, San Francisco; Dwight Murray, Napa; Lewis Alesen, Los Angeles; John Rumsey, San Diego; James Feldmayer, Exeter; Dan Kilroy, Sacramento.

We have a few constructive innovations for the forthcoming meeting with our sincere hope that they will prove useful adjuncts for future House of Delegate Meetings.

Our sincere appreciation is extended again to the chairmen and members of all committees for their devotion and hard work during the 1957 session.

Respectfully submitted,

James C. Doyle, *Speaker*
J. Norman O'Neill, *Vice-Speaker*

REPORT OF THE PRESIDENT OF THE TRUSTEES OF THE C.M.A.

To the House of Delegates:

The Trustees of the California Medical Association is a California nonprofit corporation, operated solely to hold surplus funds or property of the Association itself. Its assets represent funds contributed by the C.M.A. from time to time and the accumulated earnings on those funds. The members of the corporation are at all times the officers and councilors of the Association and the board of directors is elected from the members.

The corporation transacts a minimal business during the year, its activities consisting principally of reinvesting accumulated earnings. During 1957 it voted to purchase real estate at 693 Sutter Street, San Francisco, at a cost of $325,000, to serve as headquarters for the C.M.A. and to provide additional space for future growth. Such space as is not immediately needed will be leased to others.

Books and accounts of the Trustees have been audited by John F. Forbes & Co., certified public accountants, and the results of the audit are shown on another page, together with the report of the Treasurer of the C.M.A. Members should bear in mind, in reviewing these financial reports, that the assets of the corporation should be considered as a part of the assets of the Association, since the two are under identical control.

Respectfully submitted,
Frank A. MacDonald, *President*

REPORT OF PHYSICIANS' BENEVOLENCE FUND, Inc.

To the House of Delegates:

Physicians' Benevolence Fund, Inc., is a California nonprofit corporation, organized for charitable purposes. Its function is to disburse to physicians or their families, in time of need, funds which may tide them over periods of financial stress or supplement other sources of income.

During 1957 the corporation carried out its stated purposes and was able to provide financial aid to several physicians or their families and to make a contribution to the Los Angeles County Physicians' Aid Association, which is maintained as a part of the Los Angeles County Medical Association for the same purposes.

Funds for the operation of the corporation come from the California Medical Association, which contributes $1 per active member each year, from the Woman's Auxiliary to the C.M.A., from contributions made by other individuals or groups and from interest earned on investments.

Members of the corporation are at all times the officers and councilors of the Association, who select the officers and members of the board of directors. The board, in turn, appoints five members of an operating committee, who pass upon all requests for aid and determine the amount and duration of aid to be given on any application. The operating committee consists of Axcel E. Anderson of Fresno, chairman, Elizabeth Mason-Hohl and Ford P. Cady of Los Angeles, Don C. Musser of San Francisco and C. L. Boice of San Jose.

For the fiscal year ended June 30, 1957, an audit has been prepared by certified public accountants and the results of that audit are published elsewhere in this issue under the report of the Treasurer.

In brief, the audit shows that the corporation received $17,286.80 during the fiscal year ended June 30, 1957, of which $15,190.75 was contributed by the California Medical Association, $243.00 was contributed by others and $2,096.05 came from interest on investments. Expenditures totaled $9,429.05, of which $9,400.00 was paid out in benefits to needy physicians or their family members.

The resulting net surplus of $7,857.75 was added to the corporation's assets at the close of the fiscal period, bringing net assets to $99,990.03. Of that amount, $84,000 was invested in U. S. Government securities.

Not shown in the auditor's figures is a contribution of $2,919.70 from the Woman's Auxiliary, representing the annual contribution by that group. Due to variations in the fiscal years of the two organizations this contribution was received after the close of the corporation's fiscal period but should not go unnoticed.

The thanks of the board of directors go to the five members of the operating committee who have given so promptly and freely of their judgment and services. They have consistently been prompt and generous in meeting requests for assistance.

The C.M.A. House of Delegates requested in 1957 that a statement relative to this operation be spread among the county societies for their information. Such a statement was prepared and delivered to the Woman's Auxiliary at its fall board meeting. It was then reprinted in *The Courier* of the Auxiliary and copies sent to all county medical societies.

Respectfully submitted,
Frank A. MacDonald, *President*

REPORT OF THE SECRETARY

To the President and the House of Delegates:

As Secretary, appointed by the Council, I have attended the meetings of the Council and the Executive Committee throughout the year, have reviewed the minutes prepared for these meetings and have attended to the duties assigned by the Council and the Executive Committee.

Because of the increasing difficulty in keeping accurate records of meetings, a court stenographer has been employed to take down the important actions and these will be available for more detailed study of the Council meetings.

I would again urge that all members of the Association review the official minutes published for the Council and Executive Committee meetings in California Medicine, and correspond with officers of the Association if they have any questions on any items reported from such minutes.

Respectfully submitted,
Albert C. Daniels, *Secretary*

REPORT OF THE TREASURER

To the President and the House of Delegates:

The Treasurer of the Association is elected by the Council each year in conformity with the requirements of the By-Laws. However, for some years he has held this title in name only, while all the normal functions of a treasurer have been assigned to staff members in the headquarters office, who work under the supervision of the Auditing Committee. Annual audits of all accounts are made by certified public accountants.

The Treasurer also serves in the same capacity for the Trustees of the California Medical Association and for the Physicians' Benevolence Fund, Inc., both California nonprofit corporations. The former is a holding company for surplus assets of the Association and the latter a charitable corporation for the benefit of physicians and their families in time of need.

Reproduced here are the balance sheets and operating statements of the Association and of the two corporations, together with detailed exhibits for the Association's accounts. These have been taken directly from the reports of the certified public accountants, John F. Forbes & Company, and are published in full.

Respectfully submitted,
Albert C. Daniels, *Treasurer*

CALIFORNIA MEDICAL ASSOCIATION

EXHIBIT A

BALANCE SHEET, JUNE 30, 1957

ASSETS

CASH		$ 95,367.44
ACCOUNTS RECEIVABLE		23,747.57
LOANS RECEIVABLE	$213,246.50	
Less reserve	208,777.50	
Remainder		4,469.00
INVESTMENT IN U. S. TREASURY SECURITIES (at cost)		325,134.61
FURNITURE AND FIXTURES (at nominal value)		1.00
DEFERRED CHARGES		2,651.63
DEPOSITS		2,256.19
TOTAL		$453,627.44

LIABILITIES

ACCOUNTS PAYABLE		$ 15,354.23
ACCRUED EXPENSES:		
General:		
Expenses of delegates to the American Medical Association	$ 11,400.01	
Organization expenses	10,160.77	
Committees' and sundry	5,138.23	
Payroll taxes	459.70	
Total	$ 27,158.71	
American Medical Education Foundation	143,043.25	
Total		170,201.96
DEFERRED INCOME—PREPAID ADVERTISING		318.36
SURPLUS, EXHIBIT B		267,752.89
TOTAL		$453,627.44

EXHIBIT B

STATEMENT OF INCOME AND SURPLUS FOR THE YEARS ENDED JUNE 30, 1957, AND 1956, AND COMPARISON

	Year Ended June 30		Increase
INCOME:	1957	1956	*Decrease*
DUES AND GENERAL:			
Membership dues, less portion allocated to CALIFORNIA MEDICINE subscription	$670,154.18	$634,569.88	$35,584.30
Exhibitors at annual meeting	28,860.00	24,986.25	3,873.75
Postgraduate institute	19,240.00	10,488.00	8,752.00
Fee for collection of American Medical Association dues	3,645.25	3,468.63	176.62
Interest earned	3,336.61	2,380.99	955.62
Other	86.27	85.73	.54
TOTAL	$725,322.31	$675,979.48	$49,342.83
OFFICIAL JOURNAL—CALIFORNIA MEDICINE:			
Advertising	$174,468.29	$159,350.57	$15,117.72
Members' subscriptions allocated from dues	47,382.00	44,788.50	2,593.50
Other subscriptions	2,243.31	1,986.42	256.89
Reprints (net)	574.52	723.77	*149.25*
TOTAL	$224,668.12	$206,849.26	$17,818.86
TOTAL INCOME	$949,990.43	$882,828.74	$67,161.69
EXPENDITURES (Schedule 1):			
ADMINISTRATION	$211,610.73	$245,711.91	*$34,101.18*
SCIENTIFIC, EDUCATIONAL, AND PUBLIC RELATIONS	482,263.14	442,149.13	40,114.01
TOTAL	$693,873.87	$687,861.04	$ 6,012.83
OFFICIAL JOURNAL—CALIFORNIA MEDICINE	197,702.53	181,990.71	15,711.82
TOTAL EXPENDITURES	$891,576.40	$869,851.75	$21,724.65
REMAINDER	$ 58,414.03	$ 12,976.99	$45,437.04
SURPLUS CREDITS:			
Reduction in reserve for loans outstanding at June 30, 1956	24,948.50		
Other credits applicable to prior periods	1,248.85		
TOTAL	$ 84,611.38		
SURPLUS CHARGES:			
Expenses applicable to prior periods	$ 842.19		
Reserves provided for loans during the year ended June 30, 1957	29,500.00		
TOTAL	$ 30,342.19		
INCREASE IN SURPLUS FOR THE YEAR	$ 54,269.19		
SURPLUS, JULY 1, 1956	213,483.70		
SURPLUS, JUNE 30, 1957	$267,752.89		

CALIFORNIA MEDICAL ASSOCIATION

Exhibit B—Schedule 1

Statement of Expenditures for the Years Ended June 30, 1957 and 1956, and Comparison

	Year Ended June 30		Increase
	1957	1956	*Decrease*
Administration:			
Salaries:			
Administrative	$ 35,213.36	$ 34,725.06	$ 488.30
Clerical	29,769.42	25,209.96	4,559.46
Total	$ 64,982.78	$ 59,935.02	$ 5,047.76
Traveling:			
Officers	$ 1,813.71	$ 2,402.36	*$ 588.65*
Council and Executive Committee	13,243.38	10,647.25	2,596.13
Total	$ 15,057.09	$ 13,049.61	$ 2,007.48
Annual meeting expenses, including transportation	$ 31,741.12	$ 33,255.91	*$ 1,514.79*
American Medical Association Convention—Delegates' traveling and sundry meeting expenses	$ 25,230.06	$ 23,310.30	$ 1,919.76
Council and Executive Committee expenses	$ 3,635.93	$ 2,757.17	$ 878.76
Conference of Physicians and Schools		$ 9,606.58	*$ 9,606.58*
County Secretaries' Conference	$ 3,312.69	$ 3,478.39	*$ 165.70*
Los Angeles office expenses	$ 3,045.79	$ 5,214.94	*$ 2,169.15*
Legal and organization expense:			
Legal expense	$ 21,095.33	$ 14,964.54	$ 6,130.79
Organization expense		38,643.95	*38,643.95*
Total	$ 21,095.33	$ 53,608.49	*$ 32,513.16*
Office expenses:			
Office rent	$ 9,991.56	$ 9,885.01	$ 106.55
Telephone and telegraph	4,671.77	3,718.66	953.11
Supplies and expense	11,617.85	12,531.17	*913.32*
Postage	1,550.03	959.98	590.05
Total	$ 27,831.21	$ 27,094.82	$ 736.39
Other expenses:			
Equipment purchases and expense	$ 2,812.59	$ 3,693.92	*$ 881.33*
Payroll taxes	2,816.20	2,738.89	77.31
Pensions	480.00	480.00	
Contribution—The Woman's Auxiliary of the California Medical Association	1,750.00	1,750.00	
Student subscriptions and meeting expenses	7,112.86	5,419.33	1,693.53
Miscellaneous	707.08	318.54	388.54
Total	$ 15,678.73	$ 14,400.68	$ 1,278.05
TOTAL	$211,610.73	$245,711.91	*$ 34,101.18*
Scientific, Education, and Public Relations:			
Department of Public Relations	$ 81,104.42	$ 76,447.91	$ 4,656.51
Public policy and legislation	54,506.90	48,385.22	6,121.68
Physicians' Benevolence	14,947.75	14,608.50	339.25
Medical Review and Advisory Board	27,461.45		27,461.45
Postgraduate activities	44,702.08	44,415.05	287.03
Cancer Commission	32,180.25	32,649.04	*468.79*
Research and planning	26,684.19		26,684.19
Other committee activities	47,158.97	57,358.15	*10,199.18*
Subscriptions to libraries	7,473.88	7,304.26	169.62
Contribution to California League for Nursing	3,000.00	3,000.00	
Contribution to the American Medical Education Foundation	143,043.25	157,981.00	*14,937.75*
TOTAL	$482,263.14	$442,149.13	$ 40,114.01
Official Journal—California Medicine:			
Printing	$136,458.50	$124,806.94	$ 11,651.56
Advertising sales expense	18,129.65	15,973.31	2,156.34
Salaries	23,209.34	22,296.08	913.26
Rent	3,330.60	3,306.65	23.95
Telephone and telegraph	1,862.23	1,622.72	239.51
Postage and mailing	6,078.72	6,084.38	*5.66*
Addressograph	2,455.54	2,315.13	140.41
Illustrations	2,340.23	2,261.13	79.10
Advertising discounts and collection expense	3,022.15	2,732.60	289.55
Sundry	815.57	591.77	223.80
TOTAL	$197,702.53	$181,990.71	$ 15,711.82
TOTAL	$891,576.40	$869,851.75	$ 21,724.65

TRUSTEES OF THE CALIFORNIA MEDICAL ASSOCIATION
(A California Corporation)

Exhibit A
Balance Sheet, June 30, 1957

ASSETS

Cash	$ 14,804.04
Note Receivable	5,000.00
Investments—U. S. Treasury Bonds and Bills (at maturity value)	1,161,000.00
Trust Fund for California Medical Association Employees	62,580.34
Prepaid Insurance	35.95
Total	$1,243,420.33

LIABILITIES

Trust Funds			$ 99,102.26
Surplus:			
Contributed surplus		$882,915.99	
Earned surplus, June 30, 1956	$250,378.00		
Add—Net income for the year, Exhibit B	11,024.08	261,402.08	
Total surplus			1,144,318.07
Total			$1,243,420.33

Exhibit B
Statement of Income and Expenditures for the Year Ended June 30, 1957

Income:		
Interest on bonds and bills		$28,025.00
Interest—Other		117.75
Total		$28,142.75
Expenditures:		
Audit fee	$ 340.00	
Custodian fee	326.69	
Miscellaneous	147.63	
Total		814.32
Balance		$27,328.43
Add Excess of Maturity Value Over Cost of U. S. Treasury Bills Purchased During the Year, Charged to the Investment Account to Reflect the Treasury Bills at Maturity Value		918.75
Total		$28,247.18
Other Charges:		
Net premium on life and retirement insurance policies	$14,223.10	
Provision for the retirement or other benefit of an employee of an affiliated organization	3,000.00	17,223.10
Remainder—Net Income for the Year		$11,024.08

PHYSICIANS' BENEVOLENCE FUND, INC.
(A California Corporation)

Exhibit A
Balance Sheet, June 30, 1957

ASSETS

Cash	$15,990.03
Investments, U. S. Treasury Bonds and Bills (at maturity value)	84,000.00
Total	$99,990.03

LIABILITIES

Net Assets:		
Contributed surplus	$ 92,132.28	
Earned surplus, net income for the year, Exhibit B	7,857.75	
Total net assets		$99,990.03
Total		$99,990.03

Exhibit B
Statement of Income and Expenditures for the Year Ended June 30, 1957

Income:		
Contributions received:		
California Medical Association	$14,947.75	
Others	243.00	$15,190.75
Interest received:		
U. S. Treasury securities	$ 1,971.05	
Other	125.00	2,096.05
Total		$17,286.80
Expenditures:		
Payments to beneficiaries	$ 9,400.00	
Other	29.05	
Total		9,429.05
Net Income for the Year		$ 7,857.75

REPORT OF THE EDITOR

To the President and the House of Delegates:

The number of manuscripts printed in California Medicine in 1957 was somewhat smaller than in the preceding year—152 as against 169—but the number of pages was almost as great as before, a reflection of two principal factors: more space was given to illustration of scientific papers and more material was used in the organizational section of your journal.

In 1957 your journal accepted about the same number of papers originating from the Annual Session of the California Medical Association as it did in the preceding year; but the number of manuscripts offered from other sources was a little less. Receipts and acceptances for the last three years were as follows:

	From					
	Annual Session		Other Sources		Total	
	Rec'd	Accepted	Rec'd	Accepted	Rec'd	Accepted
1957	109	78	113	60	222	138
1956	110	71	123	82	243	153
1955	124	81	118	75	242	156

Two new members were appointed to the Editorial Board during the year. Dr. Charles P. Lebo of San Francisco was named to the Ear, Nose and Throat section to take the place of Dr. Lewis Francis Morrison who died in 1956, and Dr. Charles E. McLennan of San Francisco was appointed to the Obstetrics and Gynecology section to fill the vacancy created by the retirement of Dr. Donald G. Tollefson. With these appointments, both sections now have one member from the southern part of California and one from the northern.

The new members of the Editorial Board have joined with the veterans in continuing to carry out the duties promptly and well. The Editor here formally records his thanks to the members of the Board for making his tasks the lighter. That the Advertising Committee does a good job of applying rather rigid standards in appraising advertising offered for publication in California Medicine is well attested by the quality of the commercial messages in that expanding section.

The Executive Committee of the Editorial Board is undertaking a study of the Heller Report concerning California Medicine. It will report to the Council its recommendations for any changes in the editorial and business policies of the journal as well as the layout of California Medicine.

The opportunity here to express thanks to the many who contribute time, effort and talent to California Medicine is a most welcome one. Again the editor wishes to express his gratitude and debt to the able assistant to the editor, Robert Edwards, and to his associate, Mrs. Barbara Rooney. Without their indispensable help California Medicine would be just another state medical journal. Thanks go, too, to John Hunton, the executive secretary of the California Medical Association, who has contributed many excellent editorials. To those who have written book reviews and editorial and special material on assignment, the Editor's gratitude.

Respectfully submitted,

Dwight L. Wilbur, *Editor*

REPORT OF THE EXECUTIVE SECRETARY

To the President and the House of Delegates:

Your Executive Secretary is again submitting his annual report in sections to represent the major activities and duties of the administrative office. Sufficient detail will be given here to cover the basic factors of each division, and the Executive Secretary will be available for further details for reference committees or officers or members of the House of Delegates.

1. *Administrative.* Office headquarters of the Association remain at 450 Sutter Street, San Francisco, where about 4,000 square feet of floor space are used for office and storage purposes. While this space has been adequate for C.M.A. activities in the past, the Association has rapidly outgrown the available office space and for the past year has been operating with one complete department housed in temporary quarters on another floor of the same building.

During 1957 a complete building two blocks away from present headquarters became available for purchase, and the Trustees of the California Medical Association has arranged to purchase this building at a cost of $325,000. Occupancy is anticipated in July, 1959, or later, dependent on the ability of the present owners to construct and occupy a new building for their purposes.

The new building, located at 693 Sutter Street, is ideally adapted to the needs of the Association and will require a minimum of internal construction to be readily usable for C.M.A. purposes. While a large part of the building will be available for leasing to other tenants at the outset, the building will provide ample space for future expansion of Association activities.

The Executive Secretary carried on negotiations for this purchase and secured, for the Executive Committee and a special committee appointed by it, expert opinions from bankers, real estate and construction executives. On the basis of the unanimous approval of these experts, the decision was made to purchase this property.

Under remodeling work going on at the close of 1957, the offices of the Cancer Commission will become a part of the headquarters office.

The addition of the medical director of the Cancer Commission and his secretary to the main office will bring the office staff to six men and thirteen women. In the Los Angeles office the staff consists of one man and three women.

As pointed out in previous reports, this staff is minimal and additional employees will continue to be needed to meet the growing demand of the Association for added activities. Such personnel additions will be made as required and the budget prepared for the coming year will take such needs into account.

2. *Los Angeles Office.* The Los Angeles office is located at 417 South Hill Street, in downtown Los Angeles. It serves primarily as headquarters for the director of public relations and the director of Postgraduate Activities. Due to expanded need for space, especially for the postgraduate work, new quarters have been secured in a building now under construction at 2975 Wilshire Blvd. This space will be occupied on February 1, 1958, by Mr. Clancy, Mrs. Griffith and two secretaries and will provide adequate space for their current needs.

3. *Equipment.* The Association requires a good deal of mechanical equipment to handle its administrative work. Practically every employee needs a typewriter, and such other machines as calculating machines, check writers, mimeograph and addressograph represent sizable investments. All equipment has been kept in top working condition and periodic replacements have been made on outmoded or outworn equipment. A major investment in 1957 was in a new addressograph machine, to replace one which, after about 15 active years, could no longer handle the work load. It is standard policy to provide maintenance contracts on all equipment as a means of keeping it in top condition.

4. *Membership.* As of November 1, 1957, the date specified in the By-Laws as governing the allocation of members of the House of Delegates, the Association listed 15,130 active members, an increase of 705 members, or 4.9 per cent, over the preceding November 1. This membership will entitle the Association to one additional Delegate and Alternate to the American Medical Association in 1958; these elections will be scheduled on the agenda of the House of Delegates.

In accordance with the requirements of the By-Laws, there is shown below the active membership of all county medical societies as of November 1, 1957.

MEMBERSHIP (ACTIVE) IN THE C.M.A. AS OF NOVEMBER 1, 1957—BY COUNTY SOCIETIES

Alameda-Contra Costa	1,340
Butte-Glenn	83
Fresno	270
Humboldt	80
Imperial	51
Inyo-Mono	11
Kern	189
Kings	32
Lassen-Plumas-Modoc	22
Los Angeles	6,380
Madera	14
Marin	165
Mendocino-Lake	51
Merced	51
Monterey	166
Napa	84
Orange	420
Placer-Nevada-Sierra	62
Riverside	194
Sacramento	383
San Benito	12
San Bernardino	326
San Diego	753
San Francisco	1,620
San Joaquin	194
San Luis Obispo	70
San Mateo	452
Santa Barbara	191
Santa Clara	615
Santa Cruz	83
Shasta	50
Siskiyou	20
Solano	74
Sonoma	151
Stanislaus	149
Tehama	13
Tulare	109
Ventura	108
Yolo	42
Yuba-Sutter-Colusa	50
TOTAL	15,130

5. *Financial.* Complete financial reports, as submitted by certified public accountants for the fiscal year ended June 30, 1957, appear elsewhere in this issue under the Report of the Treasurer. This report will point out only a few of the major financial items during that fiscal period.

The Association closed its 1957 fiscal year with a balance of $58,414 after all expenses. This compares with a balance of $12,977 for the preceding fiscal year. The difference is accounted for by an increase of $67,142 in income and an increase of only $21,725 in expenditures.

The independent auditors break down the Association's income into the categories of dues, exhibitors' rentals, postgraduate receipts and interest and miscellaneous income. Each of these categories showed increased income for the 1957 fiscal year over the 1956 period. Dues increased 5.6 per cent, exhibit income went up 15.5 per cent, postgraduate fees were 83.3 per cent higher and miscellaneous receipts gained 19.2 per cent.

Similar categories are set up by the auditors for expenditures. These are broken down into administrative expenses, scientific-educational-public relations, and CALIFORNIA MEDICINE.

For the 1957 fiscal period, administrative expenses declined 13.8 per cent from the preceding year, scientific-educational-public relations costs increased 9 per cent and publication costs went up 8.6 per cent. Detailed figures are shown in the auditors' report on another page.

CALIFORNIA MEDICINE enjoyed its most prosperous year to date, with a surplus of $26,965 for the 1957 fiscal year, a gain of 8.5 per cent from the net surplus of $24,858 for the preceding year.

Loans outstanding at the close of the 1957 period amounted to $208,777, representing amounts advanced to several blood banks, to Audio-Digest Foundation and to members who were victims of the late 1955 floods. Repayments are being made on the blood bank and flood loans, which are expected to be self-liquidating over the years. These loans are advanced with no interest requirements, on authorization by the Council or the House of Delegates.

6. CALIFORNIA MEDICINE. The journal again maintained its high position among state medical journals during 1957 and additional improvements and features are being considered. State medical journals are, by their very nature, handicapped in comparison with national or specialty publications but CALIFORNIA MEDICINE strives constantly to make its contents more interesting and, simultaneously, its advertising pages more attractive. It is interesting to note that, whereas the journal was withdrawn from a national advertising sales group in 1946 because of too rigid advertising requirements, today its advertising standards appear to be the highest in the country. A vigilant screening committee surveys all advertising copy submitted and enforces regulations which are not honored by many other publications.

7. *Commissions and Committees.* The headquarters office has again given all requested services to the many commissions and committees which carry on C.M.A. business. The volume of work in this field is constantly expanding and plans are under way to centralize all commission work in one responsible employee and to add such personnel as may be needed to provide complete services for all commissions and committees.

8. *Public Relations.* The Executive Secretary continues to work with Messrs. Ed Clancy and Glenn Gillette, the two-man team that handles public relations. This activity includes a great deal of personal service to county medical societies which are faced with special problems. Public relations, legislative and legal personnel are all available in such instances and the teamwork between these branches is excellent. While most of the larger county societies employ their own personnel, the smaller societies are more dependent on the state organization for assistance in local matters. The larger societies are also given every possible assistance when it is required. The report of the Director of Public Relations, published elsewhere in this issue, gives a more detailed account of activities during the past year.

9. *Annual Session.* Arrangements are being completed at the 1957 year-end for the 1958 Annual Session. Originally scheduled to be held in San Francisco, this meeting was switched to Los Angeles to avoid a conflict with the A.M.A. 1958 meeting. For 1959, the meeting will be held in San Francisco and will be scheduled for late February, about two months earlier in the year than usual. The earlier date appears to offer better opportunities for securing top quality guest speakers.

The 1958 meeting will witness the advent of a new type of scientific meeting, a series of postgraduate courses for which other organizations plan to give postgraduate training credit. Admission fees will be charged for these courses, which have been jointly arranged by the Committee on Postgraduate Activities, the Committee on Scientific Work and the medical schools at the University of California at Los Angeles, University of Southern California and the College of Medical Evangelists.

Difficulty has been encountered this year in securing sufficient space for meetings and exhibits, due to restrictions enforced by hotel management and fire authorities. However, the best arrangements possible with the space available will be worked out for the convenience of all attending the session.

10. *C.M.A. Structural Study.* During 1957 the Council authorized the retention of Robert Heller & Associates of Cleveland, to make a study of the functions, operations and structure of the Association. This study was completed in December and copies of the conclusions and recommendations were made available to members of the Council.

On the structural side of this study, the surveyors reviewed such items as proportional representation on the Council, the size of the House of Delegates and the methods of electing officers and A.M.A. delegates. The Heller studies on these items were confined to statistical analyses for the most part, since a constitutional study committee to review these matters has been established as a result of a 1957 action by the House of Delegates. This committee is expected to report its findings and recommendations to the 1958 House.

On functions and operations of the Association, the Heller survey has presented numerous conclusions and recommendations. These are being studied by a special committee appointed by the Chairman of the Council and the findings of this committee will be presented to the Council for action. The administrative staff of the Association is ready to institute any procedures outlined by this study and approved by the Council.

11. *Other Items.* Many additional items have occupied the time of the administrative staff during 1957. Included are the Medicare program, the new program of medical care for public welfare recipients, additional fee schedule studies, the new industrial fee schedule and conferences with labor and management representatives for labor health and welfare programs. The office has prepared many studies for standing or special committees, has done considerable research and fact-finding for the office survey and in numerous ways has worked with the Officers, Councilors, Commission and Committee members and many others. Indicative of this type of endeavor is the fact that the Heller study shows that 16 of the central office employees are engaged to some extent in work for or in behalf of the various commissions and committees. As in the past, the policy of the office is to assist in any way possible in any activities approved by the official bodies of the Association.

12. *Conclusion.* In conclusion, the thanks of the Executive Secretary are extended to the many Officers, Councilors, Commission and Committee members and chairmen and the many individual physicians who contribute so much each year to the working of the Association. The interested members who are willing to devote their personal time and energy toward the betterment of the entire group are deserving of the heartfelt thanks of all members.

Many thanks are also extended to the loyal and tireless employees who comprise the C.M.A. staff. Without their willing help at all times the functions of the office would be much more difficult to handle.

Respectfully submitted,

JOHN HUNTON, *Executive Secretary*

REPORT OF LEGAL DEPARTMENT

To the President and the House of Delegates:

The Legal Department submits the following report covering the interval between the 1957 annual session and the time of the submission of this report in January, 1958.

During the past year we have attended all meetings of the House of Delegates, the Council, and the Executive Committee, as well as meetings of various commissions, standing committees, and special committees of the Association; and have also prepared and submitted opinions on a variety of subjects, as requested by the Association or its officers or its component societies.

1. *Professional Liability:*

In December, 1957, the District Court of Appeal, First Appellate District, decided one of the most important medical malpractice cases to come before the California courts in a long time. The case involved Martin Salgo, who sued a San Francisco hospital and a leading cardiovascular surgeon. The facts were these:

Martin Salgo suffered from leg cramps which his personal physician determined were caused by advanced general arteriosclerosis. The physician referred Salgo to Dr. X, a specialist in cardiovascular surgery. After examination Dr. X diagnosed a probable occlusion of the abdominal aorta and decided upon an aortogram, which was performed at *S* Hospital. Aortograms were taken routinely and showed no calcification of the abdominal aorta iliac and femoral vessels. The next morning Salgo was unable to move from the waist down. It soon became clear that he had a transverse myelitis. He was a permanent paraplegic. As stated, the aortography had been routine. Two x-rays had been taken following two injections of sodium urokon. There was no clear-cut explanation for Salgo's paralysis. Nothing that occurred deviated from standard procedure at the hospital.

Salgo sued and at the trial his attorney relied on the doctrine *res ipsa loquitur* (the thing speaks for itself). He also contended that Dr. X personally should have performed the procedure instead of having it done by the resident staff and that Dr. X had failed to warn Salgo of the risks involved in aortography. In addition, he claimed that the manufacturer's recommended quantity of the contrast fluid had been exceeded and that it was negligence for a physician to fail to abide by the manufacturer's recommendations.

The trial judge concurred in all of the contentions of Salgo's attorney and instructed the jury accordingly. Result —a $250,000 plaintiff's verdict.

On appeal, the District Court of Appeal held:

(1) That it was error to tell the jury that *res ipsa loquitur* applied as a matter of law. Instead, the jury should have been told that it was up to it to decide on the basis of the evidence whether or not "the thing speaks for itself." The court pointed out that as a matter of law *res ipsa loquitur* only applies where it is a matter of common knowledge among laymen or among *medical men* that a particular injury does not occur unless someone has been negligent. The court said that in this case it was not shown that either laymen or physicians knew that paralysis only followed aortography if someone was negligent. It said that laymen don't even know what aortography is, much less what happens, and if the mere fact that the patient was anesthetized warranted *res ipsa loquitur* then an intolerable burden would be imposed on physicians.

(2) On the question of absence of Dr. X during portions of the aortography, the court said: "We find no evidence which would make Dr. X liable, therefore, in the absence of an agreement, express or implied, that Dr. X himself would perform [the aortography]."

(3) With respect to the manufacturer's brochure the court held that a jury *may* consider such a brochure along with other evidence in deciding whether a physician has failed to meet the standard of care but that where there is proof that physicians customarily depart from the manufacturer's recommendations, such departure is not an "experiment." In effect, the court held that the recommendations of the manufacturer are relevant as one factor in the determination of proper care but not a controlling factor.

(4) Finally, the court said that it was error to instruct the jury that a physician must *in all cases* inform a patient of the risks involved. The court said that physicians owe to their patients a primary duty to be honest and straightforward, but that medical men have the right "to handle each patient as an individual and use discretion consistent with the disclosure of facts sufficient for informed consent."

This case is the first instance in many years in which a California appellate court has taken cognizance of the long-range public detriment involved in applying harsh or punitive rules of conduct to physicians. It may mark a turning point in the long-continued trend that first started in the 1930's toward holding physicians liable in damages whenever a bad result occurs, irrespective of fault.

In another area of professional liability, it has been our privilege during the past year to participate in the joint meetings of the California State Bar and California Medical Association liaison committees' deliberations on the problem of expert testimony in medical malpractice cases. In the February, 1958, issue of CALIFORNIA MEDICINE there will be published a joint article by Dr. Francis West, C.M.A. president-elect, and Mr. James Archer of San Diego, chairman of the State Bar committee, that outlines the joint Medical Association-Bar Association recommendations for the establishment of physician-expert panels on a local basis throughout the state, such panels to be available within certain prescribed rules for consultation by attorneys and their clients who have a real or fancied grievance against a physician.

This system has been in effect for several years in Los Angeles County. All available evidence indicates that it has not stimulated malpractice suits in that county, but that on the contrary it has tended to stop the unwarranted suit before it gets started.

Clearly, it is a calculated risk on the part of the medical profession to offer in effect to furnish evidence against itself. However, by so doing the profession gains the inestimable value of proving to the public by deed rather than by words its good faith and its real desire to assure the public of fair play and a "fair shake" in those instances in which a patient feels aggrieved.

Public relations-wise, it parallels the actions of county medical societies during the past decade in establishing public service committees, insurance mediation committees, and professional relations committees, available for the impartial investigation and mediation of disputes between physician and patient regarding fees and other matters. It is an application of this principle to the field of professional liability.

2. *Medical-Legal Relations—Inter-Profession Codes and Impartial Medical Testimony:*

During the past year a great deal of time and effort has been devoted to study and discussion of the ways and means to improve the day by day relationship of physicians and lawyers. Several states and quite a few counties outside of California have established by mutual agreement of medical and bar associations inter-profession codes of conduct that delineate the proper behavior between lawyers and physicians when their professional paths cross.

Under the able guidance of Mr. Frederick O. Field, legal counsel to the Los Angeles County Medical Association, the Los Angeles County Bar and Medical Associations have just established the first California inter-professional code. While the mere establishment of a code of conduct does not in and of itself solve conflicts and misunderstandings, at least it serves as a beginning toward solution, and it creates definitive rules that can be turned to when in doubt and that can be used when an attorney or a physician "steps out of line." The very fact that bar and medical associations have undertaken mutually to study and understand the inter-relationship of the practices of Law and Medicine, is a great step forward.

It is recognized that to many physicians legal appearances will never rival the attraction of a Forty-Niners–Rams game. However, it is possible through mutual understanding and courteous behavior to make the physician's contacts with the law at least palatable.

The New York experience in impartial medical testimony has now received official approval by the American Bar Association, and is currently under study in several areas in this state. The system involves a medical panel selected by the local medical society, available to judges in all personal injury cases. The panel physician is an adviser to the judge. This system in New York has tremendously decreased the cases in which physician is pitted against physician on the witness stand, and has substantially increased the number of personal injury suits that are settled at pretrial conferences. The panel physicians' medical findings are accepted by the judge, and both litigants find themselves impelled to reach a common agreement.

In 1957 the House of Delegates adopted a resolution encouraging the establishment of the impartial medical testimony system in California. Progress is being made, and it is hoped that in time we will have it in being.

3. *Legislative:*

During the first six months of 1957 the Legislature was in session and a tremendous amount of time was necessarily devoted to the analysis of bills and amendments, advising the Legislative Committee, appearances before committees, and a multitude of emergency decisions that must be made day by day while the Legislature is acting upon literally thousands of bills. The report of the Legislative Committee will no doubt go into detail.

All that we wish to point out in this report is that the volume of legislation grows year by year, and there is no sign on the horizon of any diminution.

Since the adjournment of the Legislature, a number of interim committees are functioning busily investigating subjects for future legislation. Several of these are of particular interest to medicine.

A Senate interim committee is studying possible reorganization of the Department of Profession and Vocational Standards. This is the department in which the Board of Medical Examiners is located.

Another Senate interim committee is studying possible cancer control legislation.

An Assembly interim committee is studying the matter of health and welfare benefits for state employees.

Another Assembly interim committee has been studying the subject of diploma mills.

Last year our report to the House of Delegates spelled out in considerable detail the cultist problems in California, and stressed the fact that quack schools issuing phony diplomas must be exterminated if we are to achieve any effective elimination of the faker in the healing arts. We have therefore followed with great interest the public hearings of the Assembly Interim Committee on Education. It is hoped that from this committee will stem legislative enactments that will cut off the source of supply of many types of quack healer.

5. *Miscellaneous:*

Numerous other legal matters involving the Association have arisen during the past year. To enumerate them would unduly lengthen this report.

In addition to the writer of this report, Messrs. George A. Smith, Alan L. Bonnington, and Robert D. Huber of our firm have devoted a great deal of time and effort to the legal affairs of the Association throughout the year. Much credit is due them.

It is a pleasure to be of service to the medical profession in California.

Respectfully submitted,

PEART, BARATY & HASSARD
By HOWARD HASSARD

REPORT OF THE EXECUTIVE COMMITTEE

To the President and the House of Delegates:

The Executive Committee of the California Medical Association is established in the Constitution and By-Laws of the Association as a small group of named officers with authority to meet and act on Association business between meetings of the Council. Its decisions are subject to review and approval by the Council.

Acting in this manner the Executive Committee held six meetings during 1957, one of them as a telephone conference call. These meetings were planned for alternate months, to keep the Association's business up to date and to relieve the Council of the necessity of meeting more frequently than at 60-day intervals.

Among the actions taken by the Executive Committee during 1957, some of them at the direction of the Council, were the following:

1. Meetings with labor and management trustees of union health and welfare funds, resulting in the adoption of a statement relative to the position of the Association in regard to surgical allowances in commercial insurance contracts purchased by such trust funds.

2. Appointment of committees to deal with state and local authorities on the public welfare medical assistance program.

3. Selection of Robert Heller & Associates of Cleveland to make a structural and operational study of the Association.

4. Initiation of the preparation of minimum standards to be met by blood banks which seek the sponsorship or approval of the California Medical Association.

5. Study of written and oral presentations by real estate, banking and construction executives relative to the proposed purchase of a building in San Francisco to provide adequate headquarters for the Association.

These actions have been reported in the minutes of the Executive Committee, as published in CALIFORNIA MEDICINE throughout the year. All actions have been submitted to the Council for approval and some of the committee's recommendations are currently before the Council.

It is worthy of note that the Heller representatives have suggested the dissolution of the Executive Committee. At the same time they have suggested the formation temporarily, of a small committee under another name and with approximately the same membership as a means of assuring the possibility of rapid decision and action on matters of importance which cannot await the next scheduled Council meeting.

Another Heller recommendation is that the Council meet at monthly intervals; if this recommendation is followed, the necessity for frequent meetings of the Executive Committee would be practically eliminated as the Association would retain the flexibility in more frequent Council meetings, which at times is needed to secure action on important matters. The members of the Executive Committee will be happy to abide by whatever decisions may be reached by the Council and the House of Delegates, in this regard.

Respectfully submitted,

IVAN C. HERON, *Chairman*

REPORT OF THE COUNCIL

To the President and the House of Delegates:

The Council of the California Medical Association held six meetings during 1957 for a total of 12 days. In addition, it reviewed the actions voted by the Executive Committee in its six meetings. Schedules were set up in the spring of the year to call for Council and Executive Committee meetings at two-month intervals each, staggered so that each month there was a meeting of one or the other.

Attendance at these meetings was practically 100 per cent. Also, the executive secretaries of county societies, representatives of the five medical schools, C.P.S. officials, representatives of several departments of the State of California and the chairmen or members of various commissions and committees attended Council meetings and thus were enabled to maintain a liaison with the Council.

All minutes of these meetings were published in CALIFORNIA MEDICINE as soon as possible following the meetings. The Council's policy on minutes is to approve the minutes of each meeting at the next succeeding meeting.

Some of the principal items which came before the Council for discussion or action during the past year are listed below:

1. *Legislation.* The Council reviewed numerous legislative proposals early in the year, when the State Legislature went into its biennial general session. Decisions were reached on a number of items, some of which were initiated by the Association. The report of the Chairman of the Committee on Legislation will give additional details on individual measures. The principal item advanced by the Association was a cancer control bill, aimed at providing scientific evaluation of cancer treatments or remedies. This measure was not passed by the Legislature but was referred to an interim committee which, at the close of the year, is engaged in holding public hearings. It is hoped that out of these hearings may come a measure which will have legislative support and which will serve to promote the scientific evaluation of cancer treatments and eliminate those which, without merit, prey upon the public.

2. *Crippled Children's Act.* The Council reviewed some of the provisions under which services are rendered to patients under the Crippled Children's Act. It was the decision of the Council that per diem payments for certain hospital services should not be considered as including the services of physicians but that these physicians should be entitled to be reimbursed individually for their services. This decision reiterated the policy adopted on numerous occasions along similar lines.

3. *Governor's Conference on Rehabilitation.* The Council voted to cooperate with Governor Goodwin J. Knight and with other organizations in sponsoring the Governor's Conference on Rehabilitation. A representative of the Asso-

ciation was named as a member of the steering committee for this conference and the Association contributed a modest sum, because of the unavailability of state funds, to help in the financing of the conference.

4. *Governor's Conference on Traffic Safety.* The Council also approved participation in the Governor's Conference on Traffic Safety and the Association was honored in the selection of Doctor Francis E. West of San Diego, C.M.A. President-Elect, as the keynote speaker for this conference. This is the first time the medical profession has been recognized as a factor in the promotion of greater safety on our highways.

5. *Medical Review and Advisory Board.* The program of the Medical Review and Advisory Board has been one of the most active of all Association projects during 1957. The Council has received and reviewed numerous reports from this body and has studied and passed upon a number of individual items considered by the board. Among these have been several psychological studies among both patients and physicians, liaison with the California State Bar on the formation of panels of expert witnesses for professional liability cases, the review of insurance contract terms and the reporting of suits filed or threatened. As 1957 ends, the board has three psychological studies under way, including one covering hospital cases, one on patient attitudes and one on persons involved in professional liability actions. There is also under way a program of assembling, for record and statistical purposes, information on professional liability suits in the stages of filing or threatening.

Since much of this work is being done here for the first time, it is obvious that decisions must be reached on an empirical basis, with the hope that various avenues of approach to this important subject will prove themselves to be either with or without merit. Such decisions are not easily reached and the Council has adopted a policy of moving slowly in considering many suggested approaches to the problem.

At later Council meetings it is expected that definite plans will be made to secure the personnel needed for this board's work and to put additional programs into effect. Minutes of the coming Council meetings will report any progress made.

6. *Blood Banking.* During 1957 the Fresno County Medical Society assumed the operation of Central California Blood Bank, through its executive secretary, Roy B. Jensen, who is now administrator of the bank. The county medical society offices have been moved into the blood bank building for added convenience. It is pleasing to note that the blood bank is serving a larger volume of blood in its area than the two former banks delivered and that its operations for the past year have resulted in a surplus which is available for meeting indebtedness.

The Council has instructed the Committee on Blood Banking to develop a set of standards to apply to all blood banks which seek approval or sponsorship by the Association. Such principles will be reviewed by the Council when offered, with the expectation they will provide guides for the maintenance of sound rules which will serve the public and assure proper and adequate medical supervision over this vital function.

7. *Medicare.* The Medicare program was in effect throughout 1957, during which time the Council approved several suggested revisions in the contract between the Association and the Army. The current contract will be reopened for negotiation in February, 1958, at which time additional revisions will be sought. Among other things the Council approved the establishment of fees for anesthetic services as an addition to the surgical portion of the schedule. As predicted, California shows the greatest usage under this program of any state.

8. *Medical Care for Public Assistance Recipients.* A new medical care program which has proved to be controversial in several areas of California is the plan for recipients of public welfare assistance. The Council, faced with the knowledge that this program would be enacted into law regardless of any opposition, confined its efforts to directing the emphasis of the program on home and office visits and the suggestion that California Physicians' Service provide the administrative machinery under an established fee schedule. When a legal interpretation showed that each county must decide for itself whether to use the services of C.P.S. or handle its own administration, C.P.S. was chosen as the agency in 35 counties and the local welfare department in the other 23. Physicians in some counties have voted to withdraw their services from this program while still guaranteeing that the welfare recipients would be given needed medical services through either private or public auspices. It is apparent that 1958 will see considerable discussion of this program and that the Council will be called upon for further deliberations on this score.

9. *Group Insurance.* When additional types of group insurance for members of the Association were offered for Council consideration, the Council voted to withhold any consideration of these matters and seek the opinion of the county societies as to what types, if any, of group insurance should be sponsored by the Association and which should be left to the county societies. Inquiries to determine the attitude of the county societies on this question have produced a minimal response which gives no definite attitudes which would apply statewide. Programs for group life, group overhead and group industrial accident insurance have been proposed to the Association but not yet acted upon.

10. *New Industrial Fee Schedule.* The Industrial Accident Commission of the State of California, acting on the application of the Association, approved several increases in the schedule of medical and surgical fees applicable to industrial accident cases. The higher fees went into effect on October 1, 1957, to bring this fee schedule closer to a realistic consideration of fees. The fee schedule committee is due the thanks of the entire Association for effecting this increase.

11. *Survey of Association.* In the fall of the year the firm of Robert Heller & Associates of Cleveland was retained to make a survey of the structure, functions and administration of the Association. Their report was presented to the Council in December and its various findings and recommendations will be subjected to further study by the Council. The recommendations on the structure of the Association have been referred to the Constitutional Study Committee named as the result of action taken by the 1957 House of Delegates. Recommendations on the functions and administration will be resolved by the Council.

12. *Purchase of Building.* By Council vote the Trustees of the California Medical Association, a corporation, was instructed to arrange for the purchase of a building at 693 Sutter Street, San Francisco, to serve as headquarters for the Association. Space which will not immediately be needed for Association activities will be available for rentals to other groups, several of which have already expressed interest in being located in proximity to the Association's offices. This purchase will be completed on July 1, 1959, at which time the aggregate purchase price of $325,000 will be paid. The Council is confident that the availability of adequate office space will tend to greater efficiency in all C.M.A. operations.

13. *Annual Sessions.* The Council approved recommendations of the Committee on Scientific Work to (1) provide for postgraduate training sessions during the Annual Session, with a fee attached, and (2) change the method of reimbursing guest speakers for expenses and honoraria. The Council also approved the setting of annual session dates in February of each year, as a means of eliminating conflicting meeting dates and providing improved programs. The first such meeting is scheduled for San Francisco in February, 1959.

14. *1957 House of Delegates.* The Council has considered all resolutions referred to it by the 1957 House of Delegates and has taken appropriate action on each. It should be pointed out here that some of the actions requested of the Council were concerned with legislative proposals before the 1957 session of the State Legislature, which adjourned within a few weeks of the adjournment of the 1957 C.M.A. Annual Session. While the consensus of the House of Delegates is always a helpful guide to the Council, it should be borne in mind that time is not always available for the implementation of such resolutions. With Annual Sessions to be scheduled for February, this problem of timing may well be eliminated.

15. *Cooperation with State Departments.* As noted in the introduction of this report, the Council has been happy to have representatives of the State Department of Public Health, State Department of Mental Hygiene and State Department of Public Welfare attend Council meetings. These representatives have expressed the desire of their departments to work cooperatively with the Association and the Council has reciprocated this wish. It is obvious that such cooperation serves to benefit the entire profession in any case where medical care programs are involved. In addition, the Association continues to work in close cooperation with Selective Service in the operations of Selective Service System.

16. *Public Relations.* The Council has received reports during the year from the director of public relations. During 1957 a major addition to the armamentarium of this department was the publication of an athletic injury first aid chart which has been quickly accepted by school athletic directors and coaches. These charts are being distributed by county medical societies in their own areas.

Last year it was pointed out in this report that a revision of the composition of the Committee on Public Relations might be considered to bring this committee closer to the problems confronting our public relations representatives today. This recommendation is again made, with the suggestion that membership on this committee might well come from the public relations chairmen or committee members in the county societies where this activity is well recognized.

17. *Death of Councilor Hollis L. Carey.* On August 1, 1957, Doctor Hollis L. Carey of Gridley, Councilor-at-Large, died in his home city. The Council appointed Doctor Werner F. Hoyt of Mt. Shasta to fill this vacancy as a Councilor-at-Large, the appointment to run until the time of the 1958 Annual Session.

The above items cover some of the major points of consideration of the Council during 1957. In addition, many other items were discussed during the year, as shown in the published minutes of each meeting.

Between the time of this writing and the convening of the 1958 Annual Session the Council will hold several additional meetings and it is possible that further items will be determined for oral presentation to the House of Delegates as a supplementary report.

Respectfully submitted,
DONALD D. LUM, *Chairman*

REPORTS OF DISTRICT COUNCILORS

FIRST COUNCILOR DISTRICT

San Diego County

To the President and the House of Delegates:

I have attended all of the regular meetings of the Council since my election to fill out the unexpired term of Dr. Francis West at the annual meeting of the House of Delegates. The minutes of these meetings have been recorded in CALIFORNIA MEDICINE.

In addition I have served as a member of the Committee on State Medical Services, as a member of the General Advisory Committee for Crippled Children of the State of California, the Advisory Committee for Morbidity Research, and the Ad Hoc Advisory Committee for Influenza.

The year 1957 saw continued growth of the medical population of San Diego County, in spite of which the county medical society has functioned well with no major frictions or conflicts.

The election of Dr. Francis West to the office of president-elect of the C.M.A. was perhaps the most noteworthy event of the year to our society. He has served both our county society and the C.M.A. well and should be an outstanding president.

The officers and members of the San Diego County Medical Society show increasing cognizance of the ever changing trends in the practice of medicine. This increasing awareness will greatly aid in adapting to changing conditions as they arise.

Respectfully submitted,
JAMES C. MACLAGGAN, Councilor,
First District

SECOND COUNCILOR DISTRICT

Imperial, Inyo, Mono, Orange, Riverside and San Bernardino Counties

To the President and the House of Delegates:

The county associations which comprise the Second District have all been visited during the past year with the exception of the Inyo-Mono County Medical Association.

In addition to the annual visitation, there have been held numerous formal and informal meetings with the officers of the respective associations, as well as with the delegates and alternates.

An attempt has been made to seek advice in respect to the fulfillment of my duties as councilor and to assist in giving information locally from the state office.

The institution of the Medical Welfare Program has resulted in an intensification of interest in the affairs of the State Medical Association.

This increased interest, I am sure, will add considerably in effecting a more satisfactory solution to this and many other problems that are brought before the Council from time to time.

Again it has been a pleasure to serve.

Respectfully submitted,

Omer W. Wheeler, *Councilor,*
Second District

THIRD COUNCILOR DISTRICT

Los Angeles County

To the President and the House of Delegates:

This has been a year of soul-searching and the making of decisions which reached to the very root of the practice of medicine. One of the most profound problems of recent times has been the steadily increasing intervention of the federal government into activities which directly affect our daily lives. While considered by some as the end of the beginning and by others as the beginning of the end, this intervention affords a definite challenge to the thinking of all. In no way is this more striking than in the field of medical practice which in its ultimate form becomes socialized medicine.

All branches of government have intervened in the practice of medicine throughout the years. On the federal level, Public Health, Veterans Administration and military hospitals have been built and funds have been channeled in the programs such as Veterans Hometown Care, Medicare and those called for under the Social Security Act. In the state of California, this intervention can easily be seen in various state hospitals and state programs such as Industrial Accident Program, the Crippled Children's Program, and those directed by county and city administrations.

Aside from the growing number of agencies which have gradually become part of this governmental intervention, the number of different groups included has also been expanded to include the victims of industrial accidents, the physically handicapped and the indigent. It is with this last category that federal and state governments have made their most recent advances into the practice of medicine through the Forand Bill which is now before Congress and the California Public Assistance Medical Care Program.

With the passage of HR 7225 and State Assembly Bill 679 early in 1957, the California Medical Association was faced with two alternative courses of action. The American Medical Association gave us no advice or suggestions. It was therefore necessary for us to take one course or the other—either to cooperate with the state authorities and try to keep the control under the private practitioner with a free choice of doctors and a fee for service, or the other alternative was to oppose the program.

Opposition to the program would have caused the state to build geriatric and pediatric clinics staffed by state employed physicians and would have allowed closed panel systems to contract for care and turn the treatment of these public assistance recipients over to fringe practitioners. This left little choice to the Council of the California Medical Association. The decision to cooperate has been criticized from many sources, many groups have withdrawn from the program; however, with the fine liaison that exists between the California Medical Association and the State Department of Social Welfare, I believe the objectional features will be ironed out and the program will be relatively acceptable.

The A.M.A., C.M.A., and other state societies, up until this time have been fighting rear-guard actions, have been attempting to put out fires wherever they started but so far have not come up with a constructive, progressive program in regard to the increasing intervention of federal and state governments into the private practice of medicine.

It is my opinion that until such time as the doctors of medicine in this country are willing to sit down and study this problem thoroughly and develop a unified, constructive, progressive policy and have a unified, unwavering goal, we will continue to be faced with more and more socialized medicine.

Respectfully submitted,

Paul D. Foster, *Councilor,*
Third District

FOURTH COUNCILOR DISTRICT

Los Angeles County

To the President and the House of Delegates:

The apparent malfunction of the governing body of the California Medical Association has not been because of a lack of diligence of its executive officers, Council members, or administrative staff, but rather has been with its ways and means of communication to its membership. In Los Angeles, the size of its membership as well as its geographical distribution has prevented adequate conveyance of the State Council actions to the rank and file membership.

Reports to the county medical association council do not seem to have been adequate.

Reports regularly to the county medical association district officers' meetings should be a regular subject of the agenda at the monthly meetings.

A meeting with the delegates and alternates to the California Medical Association House of Delegates should be held at least twice a year with the councilors leading the meeting by supplying information as to what has happened, especially with regards to the resolutions as passed by the House in its former meetings, and as the councilors asking for guidance with future problems and directions as to the wishes of the delegate members.

Respectfully submitted,

E. E. Wadsworth, Jr., *Councilor,*
Fourth District

FIFTH COUNCILOR DISTRICT

San Luis Obispo, Santa Barbara and Ventura Counties

To the President and the House of Delegates:

It has been a real pleasure to serve as councilor of the Fifth District during the past year.

Mr. John Hunton, Mr. Robert Thomas, Mr. Ben Read, Mr. Gene Salisbury, Mr. Ed Clancy, Mr. Glenn Gillette, Doctor Francis E. West and Doctor Frank A. MacDonald have been most helpful in keeping the members of the Tri-County Societies informed and up to date on the latest developments affecting the practice of medicine.

Respectfully submitted,

Robert O. Pearman, *Councilor,*
Fifth District

SIXTH COUNCILOR DISTRICT

Calaveras, Fresno, Kern, Kings, Madera, Mariposa, Merced, San Joaquin, Stanislaus, Tulare and Tuolumne Counties

To the President and the House of Delegates:

Your Sixth District councilor has attended all meetings of the Council and serves as chairman of the C.M.A. Liaison Committee to the State Department of Social Welfare.

All of the societies in the district continue to be strong and vigorous and I am happy to report that the Central California Blood Bank in Fresno is in good financial standing and serving the area in an excellent manner.

The officers of the C.M.A. have visited the county societies within the district and have done much to create a better liaison between the Association and the county societies.

Your councilor has and will continue to keep himself abreast of medical affairs.

Respectfully submitted,
DONALD C. HARRINGTON, *Councilor,*
Sixth District

SEVENTH COUNCILOR DISTRICT

Monterey, San Benito, San Mateo, Santa Clara, and Santa Cruz Counties

To the President and the House of Delegates:

The Seventh District has increased its membership by 10 per cent during the past year.

San Mateo County has established an emergency call system in which an emergency is taken care of or the patient referred to a local physician. In addition San Mateo started a system of assigning new members to an active member in their specialty as a counselor for one year. This counselor is to give advice, whenever asked, regarding the ethics and practice of medicine. They, also, had the honor of entertaining at dinner A.M.A. president, Dwight Murray. And at their annual meeting, had the president of the California Bar Association as a guest.

Santa Clara County inaugurated their first school health and advisory council consisting of doctors, dentists, public health officers, teachers and administrators, to work out and direct the care of school health problems.

Santa Clara County also held an athletic injury clinic which was largely and enthusiastically attended.

Respectfully submitted,
JAMES H. MCPHARLIN, *Councilor,*
Seventh District

EIGHTH COUNCILOR DISTRICT

San Francisco County

To the President and the House of Delegates:

As councilor from the Eighth District for the California Medical Association, I have reported regularly on the Council meetings to the San Francisco Medical Society's board of directors. I served on the Council's Budget Committee, Committee for Selection of Commissions and Committees, and the C.M.A. Liaison Committee to the State Social Welfare Board (now a sub-committee of the Committee on Government Financed Medical Plans).

The San Francisco Medical Society's outstanding project of the year—one that has real long range value and importance—again was its young physicians' program, with the third annual fall reception attracting almost one thousand. The Woman's Auxiliary, the C.M.A. and the Public Health League assisted with the reception and a series of forum-social meetings. The student preceptorship program continued to be successful, as well as the loan funds, with five loans being given to house staff members and ten to young physicians beginning practice.

The society's Medical Insurance Committee was active; much of its work centered on the abrogation by the city's Health Service System of its agreement on physician participation with the society. A change in the city charter has resulted in reorganization of the system, and a member of the society will sit on the new H.S.S. board. Of deep interest was a letter sent to all local physicians by the secretary of the Labor Council asking them to accept a rigid fee schedule. The schedule was promptly characterized by the society's president, Donald M. Campbell, as not adequate, reasonable or realistic, and it is understood only a handful of physicians "signed up" for the schedule. The public assistance program in San Francisco was studied by a new Rehabilitation and Categorical Aids Committee, which worked closely with the local welfare department.

Several changes in the society's constitution were approved by the members, among them one making the Insurance Mediation Committee (which deals with any problems on health insurance affecting patients or physicians) a standing committee with the same status as the Professional Relations (or "grievance") committee.

Among long range programs initiated were studies on standards of care for nursing homes, on hospital "staph" infections, on reorganization of the medical and health services of the city's Disaster Defense Council and Corps in cooperation with that group, and on "paramedical" groups and their relationships to the medical profession. The society cooperated with the United Community Fund's Health Council on a questionnaire concerning community needs and resources in health and rehabilitation; the recommendations of society members will determine much of the future emphasis in these fields locally. Work was begun on a membership directory, and printing of a history of the society was approved by the Board. The members enrolled enthusiastically in a new group catastrophic hospitalization plan.

Out of the usual run of medical society activities were receptions given by our board for visiting foreign physicians—one a group of Japanese psychiatrists, the other Russian health officers and immunologists.

The society closed a busy year with the realization that this year will be even busier, as the problems of medicine—and hence of medical societies—become increasingly more complex.

Respectfully submitted,
SAMUEL R. SHERMAN, *Councilor,*
Eighth District

NINTH COUNCILOR DISTRICT

Alameda and Contra Costa Counties

To the President and the House of Delegates:

Several new committees, devoted to public service, were created by the Alameda-Contra Costa Medical Association during 1957. In addition, medical association counsel continued to be sought by labor and governmental agencies to assist in improving benefits, indemnities and mechanics of their health plans.

The Child Welfare Committee's child injury survey continues to gain national recognition and was recently the subject of a study by the U. S. Public Health Service. (Twenty-six thousand child injuries in the two counties were predicted for 1957. The preliminary report shows 26,988 injured.) The establishment of a Poison Information Service (for physicians only) has proved a valuable intraprofessional service, and is being utilized also by doctors of neighboring counties. Four to five calls are received daily.

The East Bay Athletic Injury Clinic, conducted by the newly created Athletic Advisory Committee, held its first session in June of '57. The clinic was very well attended and will be repeated on an annual basis.

The state's first county medical association sponsored medical scholarship program went into effect during 1957. Through the program, two third-year medical students from Alameda and/or Contra Costa counties (one at Stanford, one at the University of California) each receive a $500 grant based on need and academic attainment. The fund is maintained by voluntary contributions of Association members, as well as proceeds from the Alameda-Contra Costa medical symphony's annual public concert.

The medical symphony's December concert was very well received and earned the support and appreciation of doctors and public, alike.

The ACCMA Disaster Committee continued its effective and long range program with the staging of "Operation Pill Hill" in the spring of 1957. In this test, five large hospitals, 200 "casualties," 60 doctors, and 300 civil disaster personnel were involved. More than 2,500 feet of film recorded the operation and from it has been edited a 30-minute color and sound film which has been selected by the A.M.A. Disaster Council as its disaster training film for all county societies.

The Inter-professional Committee has met with members of the bar associations of Alameda and Contra Costa counties and drawn up a "Code of Cooperation," which is awaiting approval of the Contra Costa Bar group.

The assistance of the medical association was sought by both county welfare directors at the time the Public Assistance Medical Care Program went into effect. Mutual cooperation and forebearance has aided materially a realistic and constructive interpretation of the program in Alameda and Contra Costa counties.

Thirty-seven patient fee complaints were referred to the Distribution of Medical Care Committees during the year. In addition, 112 claims were reviewed for C.P.S., Blue Cross and union insurance plans.

The Medical Practice Committee received 90 new liability claims in 1957, a decrease of 20 from the preceding year. The committee continues to meet monthly in addition to special pretrial meetings with legal counsel throughout the year.

The Intra-professional Committee held indoctrination meetings for 111 new doctor-members during 1957.

Respectfully submitted,

DONALD LUM, *Councilor,*
Ninth District

TENTH COUNCILOR DISTRICT

Del Norte, Humboldt, Lake, Marin, Mendocino, Napa, Solano and Sonoma Counties

To the President and the House of Delegates:

This District of the California Medical Association has been active and alert to the problems of medicine and to the interests and desires of the public. The annual visits to the individual county societies have been held successfully. Some of them are yet to be held in the later spring. The individual societies have frequently been most gracious in changing their usual date of meetings each month in order to fit into the trying and intricate schedules of the visiting president-elect, Dr. Frank West. Dr. West was accompanied to each of the county meetings by me as district councilor. Other members of the California Medical Association administrative staff, either Mr. Hunton or Mr. Gillette were present. From time to time, the counties were fortunate in addition, in having a representative of the Public Health League of California, either Mr. Salisbury or Mr. Read.

The address of the president-elect this year was particularly well received since it served as an excellent background to both the attending auxiliary members as well as the county society members into the problems of medicine as it relates itself to the changing attitudes of the public concerning practice of medicine by governmental agencies, broadening insurance programs and the encircling trend of various varieties of fee schedules. The discussions following Dr. West's addresses from the floor as well as individual members were particularly pertinent and stimulating.

The first meeting was of the Mendocino-Lake County Society. This was the first of Dr. West's series of lectures to the various county societies. After a very worthwhile meeting there, the party motored to Eureka for the evening meeting with the Humboldt-Del Norte Society.

At a separate time, the meeting with the Sonoma County Society in Santa Rosa was held. Dr. West addressed the Women's Auxiliary at noon and then the same evening gathered with the men for a discussion and presentation of his address. At that society, the discussions were particularly pertinent and active and the visiting group was able to hear a great deal of worthwhile discussion from the floor of various aspects of the local problems of the Sonoma County Society. The meeting of the Solano County Society at the Green Valley Country Club had in attendance besides the members, also their wives. Such was the pleasant situation at the annual meeting with the Napa County Society members in Napa.

In the county societies of this district, the rapport with the California Medical Association has been only moderate. Your councilor looks forward with real interest and anticipation to the intended implementation of having more frequent meetings with the delegates to the California Medical Association from this district. It has basically been impossible to impart to the various county societies the various problems and attitudes of California medicine in the brief visits that are held once a year. The proposed new meetings with the councilor will be most appropriate. Of all the various programs that have started throughout the year, the one that is causing the most discussion and needs the most thorough investigation is the State Old Age Assistance Program which has just been initiated. This is a most obvious encroachment upon the practice of medicine by the government and one that will require the careful thought and attention of all members of medicine. It is important that the problem be carefully reviewed by each county society and its attitudes assessed in order that the California Medical Association may move forward into the precarious future with all the facts at hand and with a reunited attitude as to the best avenue to follow.

Respectfully submitted,

WARREN L. BOSTICK, *Councilor,*
Tenth District

ELEVENTH COUNCILOR DISTRICT

Alpine, Amador, Butte, Colusa, Eldorado, Glenn, Lassen, Modoc, Nevada, Placer, Plumas, Sacramento, Shasta, Sierra, Siskiyou, Sutter, Tehama, Trinity, Yolo and Yuba Counties

To the President and the House of Delegates:

After an early serene half year, the societies in this district closed the year in an attitude of great concern and irritation over the new medical care program for public assistance recipients. Repeated visits by the councilor have been made to various component societies to clarify facts and to counsel on possible future changes in the programs.

The delegates from this district functioned very well as a closely knit group in preconvention and convention activities and have given real service to the California Medical Association in their alert approach to problems presented to them.

The councilor from the district has attended all council meetings and the annual convention and has tried to keep abreast of the rapidly changing and confusing emphasis in medical social and economic trends.

Respectfully submitted,

RALPH C. TEALL, *Councilor,*
Eleventh District

REPORTS OF COUNCILORS-AT-LARGE

To the President and the House of Delegates:

By appointment of the Council I have been asked to serve as councilor-at-large since the passing of the esteemed and much loved Dr. H. L. Carey.

I have attended all meetings and have participated in the decisions of the Council.

It has also been my pleasure to visit, along with the president-elect, Francis E. West, and councilor of the Eleventh District, Ralph C. Teall, Mr. John Hunton, Mr. Glenn Gillette, and Mr. Gene Salisbury, county medical societies in Northern California.

Respectfully submitted,

WERNER FLETCHER HOYT, *Councilor-at-Large*

To the President and the House of Delegates:

During the past year I have attended all of the meetings of the Council of the California Medical Association. I have participated actively in all of the affairs of the California Medical Association including its purchase of a new building.

As chairman of the Health and Accident Insurance Committee, there was obtained a benefit for all of those who participate in the plan. This benefit consists of coverage from the first day of illness when in a hospital for four days or longer. Otherwise the coverage begins on the eighth day for a medical disability.

The insurance program is well established and there have been very few complex problems during the course of the year.

Respectfully submitted,

ARTHUR A. KIRCHNER, *Councilor-at-Large*

To the President and the House of Delegates:

As councilor-at-large I have attended the meetings of the Council of the California Medical Association and have taken part in the affairs of the committees to which I have been assigned. As a Council-appointed member of the Board of Trustees of California Physicians Service, I have acted as president of California Physicians Service and chairman of the board. An effort has been made to find a full-time president of the California Physicians Service, but so far that position has not been permanently filled. I have attempted to keep in touch with organized medicine in the state and have attended meetings of the Council of the Alameda-Contra Costa Medical Society. I have attempted to serve in any advisory capacity to the other medical societies or their representatives when requested.

I am serving as one of the two district commissioners to the National Blue Shield Commission and have attended meetings of the commission and also of the Conference of Western Prepaid Medical Care plans, which were held in Portland. I am currently serving on the executive committee of the board of directors of Medical Indemnity of America and Health Service, Inc., the national Blue Shield-Blue Cross joint-operating indemnity insurance company, which is located in Ohio.

Respectfully submitted,

T. ERIC REYNOLDS, *Councilor-at-Large*

To the President and the House of Delegates:

I have attended all meetings of the Council the past year and with officers of the California Medical Association visited a number of county medical societies. The committee reports as well as the many problems presented to the Council were given careful study, and acted upon in the best judgment of the Council.

Visits to the county societies strongly reemphasized the problem of communications and attracting the members' eyes, ears and interest. It was refreshing to find an aroused, alert concern in all the affairs of the Association. If sustained, it should prove most beneficial and helpful to the officers and employees of the Association. The published reports and proceedings of the Council set forth the many problems and considered thought given to them and all affairs of the Association by the elected officers and employees.

Respectfully submitted,

ARTHUR E. VARDEN, *Councilor-at-Large*

To the President and the House of Delegates:

As councilor-at-large I have attended the regular meetings of the Council of the California Medical Association and taken part in the discussion and decisions of the Council. In addition, committee or other assignments have been carried out.

I have endeavored to translate the wishes of the House of Delegates and Council to county societies; to other organizations including California Physicians' Service as Council-appointed trustee; to Blue Cross of Northern California as trustee; and to both the California Academy of General Practice as well as the American Academy of General Practice as a founder member of each.

In turn, requests, questions, and problems of these organizations as well as the membership at large of the California Medical Association have been referred to the Council for suggestions or action.

Respectfully submitted,

IVAN C. HERON, *Councilor-at-Large*

To the President and the House of Delegates:

I have attended all meetings of the Council. My activities are more completely covered in the reports of the Postgraduate Activities Committee.

Respectfully submitted,

EDWARD C. ROSENOW, JR., *Councilor-at-Large*

REPORTS OF COMMISSIONS

CANCER COMMISSION

To the President and the House of Delegates:

This report covers the activities of the Cancer Commission for the year 1957-58. We are pleased to report that this past year has been one of increased activity which has been productive of substantial accomplishments.

As in previous years, the problem of cancer quackery has been a major interest of the commission.

As was reported last year, anti-cancer quack legislation was introduced by Assemblyman Caspar W. Weinberger of San Francisco on January 21, 1957. This bill was cosponsored by the American Cancer Society, California Division, the California Osteopathic Association and the California Medical Association. It is now a matter of history that the bill, as introduced into the Assembly, was passed by a vote of 60 to 6. When the bill reached the Senate, it was prevented from reaching the floor of the Senate by the Senate Committee on Public Health and Safety by a margin of one vote. It was referred to an Interim Committee of the Senate Public Health and Safety Committee for further study and a report is to be made to the Senate Committee at the next session of the Legislature. Despite the fact that the bill was not passed at this session, it is the opinion of the Cancer Commission that the wide publicity given the matter accomplished a great deal of good. As a result of the efforts of the volunteers of the American Cancer Society, California Division, excellent coverage by the newspapers, radio and television stations was obtained. Thus the public was provided with extensive and accurate information concerning the cancer quackery problem.

The principal opposition to the bill came from known unconventional practitioners in the State of California, and others elsewhere. In fact, the matter became of national interest as a result of the widespread publicity given to it. It was evident that the unconventional practitioners throughout the country were following the course of the proposed legislation closely. Soon after the bill failed to pass the Senate, an increased number of unconventional methods and practitioners began to appear in California. Recently Harry Hoxsey of Dallas, Texas, has announced that his method of treatment is available in Los Angeles, and we have information to the effect that it is being supplied to a fair number of patients in that area. How many of these are suffering from cancer is unknown, but we believe that a sizable number either have cancer or are convinced that they have it.

The Senate Interim Committee now studying this problem has held several hearings and it appears probable that it will propose a bill to combat cancer quackery at the next session of the Legislature. The Cancer Commission will attempt to keep the medical profession informed either directly or through the appropriate agencies of the California Medical Association. The Council of the C.M.A. approved the legislation introduced in the last session of the Legislature. It is hoped that the Senate Interim Committee will recommend an equally effective action, which will curb quackery and preserve the freedom of medical practice and research. Such a bill should and must receive full support of the membership of the C.M.A. Good legislation in this field is vital to the protection of the public. A second failure to achieve it would serve as an invitation to quacks of all varieties to come to California. Therefore, we are asking your wholehearted support to eliminate the menace of the cancer quack.

The Cancer Commission wishes to express its appreciation to Dr. Dan Kilroy, chairman of the Committee on Legislation and Public Relations, and Mr. Ben Read and Mr. Eugene Salisbury of the Public Health League for their diligent and commendable efforts on behalf of this legislation.

The Cancer Commission continues to receive many inquiries from the medical profession and the public concerning various cancer treatment methods. An attempt has been made to direct the public to competent medical care and to advise the medical profession, with such information as we have at hand, concerning the various unconventional methods. The brochure entitled "Unconventional Cancer Treatment Methods" continues to be popular and the state medical associations of Michigan and Texas have asked and have been given permission to reprint it under their own sponsorship.

The Medical Director, in conjunction with the Bureau of Food and Drug Inspections of the State of California Department of Public Health, assisted the Michigan Cancer Coordinating Committee in the preparation of a cancer quack exhibit which was shown at the annual meeting of the Michigan State Medical Society.

Doctors Cline, Garland and Wood are active members of the American Cancer Society's national Committee on New and Unproved Methods of Treatment, which is studying the cancer quackery problem on the national level.

The Medical Director has been privileged to sit in on the deliberations of this committee. The Committee on Diagnosis and Therapy of the National Research Council (Dr. L. Henry Garland, chairman) has been dissolved, and the functions and files of this committee have been turned over to the American Cancer Society's Committee on New and Unproved Methods of Treatment. This addition to the very valuable and extensive file of the American Cancer Society now makes this the largest collection of cancer quack information in the country.

Other activities of the Cancer Commission may be summarized as follows:

1. *Consultative Tumor Boards.* Several new Tumor Boards have been established during the year, bringing the total to 70 Tumor Boards now in active operation in California. It is the opinion of the Cancer Commission that the Tumor Boards continue to function as a potent professional educational tool in addition to offering consultation service to the practicing physician faced with a difficult tumor problem.

   The American Cancer Society, California Division, continues to give financial support to several of the Tumor Boards approved by the Cancer Commission. We believe the money to be well spent and in certain instances the Tumor Boards could not function properly if these funds were not available.

2. *Cancer Conferences.* During the past year sixteen cancer conferences were presented at meetings of county medical societies. A wide variety of subjects was covered in the course of these meetings. Members of the teaching staffs of the medical schools in California made most of the presentations. We are fortunate that men of this caliber are willing to participate in our cancer conferences. We wish to express our appreciation to them for the time and effort they devote to this project. A total of 41 faculty members participated in conferences during the past year. We propose to continue these conferences in the future and plans for the 1958 series have been largely completed.

3. *Tumor Tissue Registry.* The Registry continues to function actively and continues to acquire new and interesting cases. Two state-wide slide conferences have been conducted by the Registry during the past year. Both were

very successful. One dealt with malignancies of the genitourinary tract and the other was on malignancies of the eye. The monthly slide collections have great value to pathologists. The Registry has received widespread commendation and we are now sending study sets not only to the pathologists of California, but to those of many other states.

A great mass of valuable research material is available in the Tumor Tissue Registry. Several research projects have been proposed and it is hoped that the results of these will appear in medical publications soon.

4. *The Annual Preconvention Radiology Conference.* This conference was conducted under the able chairmanship of Dr. Roy Weathered. Several interesting and instructive diagnostic and therapeutic cases were presented.

5. *Cancer Monographs and CA: A Bulletin of Cancer Progress.* In cooperation with the California Division, these two publications are being sent to physicians in California. A number of the monographs have been revised and sent to the physicians. Any physician may receive CA by requesting the Medical Director to have it sent to his office.

6. *Central Tumor Registry.* The Advisory Committee of the California Medical Association to the Central Tumor Registry and the Cancer Commission work closely with the Tumor Registry in developing material for distribution to the medical profession. A recent article appearing in CALIFORNIA MEDICINE (Vol. 87, No. 3, Sept. 1957, p. 180) gives a complete report of the organization and functions of the Central Tumor Registry. The Cancer Commission is currently cooperating with the Central Tumor Registry in a research project which should result in valuable information for the medical profession. We hope to give this report wide distribution when it is completed.

7. *American Cancer Society, California Division.* The Medical Director continues to act as a medical consultant to the California Division in his capacity as Medical and Scientific Director of the Division. Matters pertaining to the medical profession are discussed prior to action on the part of division. This arrangement is mutually beneficial. Nine members of the Cancer Commission and its Advisory Committee serve as members of the board of directors of the California Division, thus further strengthening the relationship between the two organizations.

The commission wishes again to express its appreciation to Dr. Dwight L. Wilbur, Editor of CALIFORNIA MEDICINE, for his consistent cooperation and support in making space available in CALIFORNIA MEDICINE for matters pertaining to the Cancer Commission.

The chairman desires to express his appreciation to the other members of the Cancer Commission and the members of the Advisory Committee for their diligent efforts and support during the past year, without which it would have been impossible to report substantial progress.

Respectfully submitted,

JOHN W. CLINE, *Chairman*

COMMISSION ON MEDICAL EDUCATION

To the President and the House of Delegates:

The commission herewith forwards reports of the constituent committees as presented below.

Respectfully submitted,

EDWARD C. ROSENOW, JR., *Chairman*
Commission on Medical Education

Committee on Blood Banks

The work of the Committee on Blood Banks during 1957 was mostly concerned with developing standards for sponsorship of system banks by C.M.A. and with affairs of the California Blood Bank System and the Pacific District of the American Association of Blood Banks.

Meetings: A meeting of the committee was held in San Francisco on January 12, 1957. Policies and recommendations were set forth to be presented to the California Blood Bank System at its annual meeting at Millbrae in February. The members of the committee attended this annual meeting of the California Blood Bank System and the Pacific District. An important issue at this meeting was whether or not the California Blood Bank System should go out of existence in that the Pacific District Clearing House was organized and operating. The decision was that this would not be advisable; although the C.B.B.S. was no longer needed for clearing house purposes there was certainly much to be gained by the exchange of ideas both from the technical and administrative viewpoints. Therefore, the C.B.B.S. will continue for this function.

Along with the development of the Pacific District Clearing House has come the development of the National Clearing House plan of reciprocity that originated in California and Florida. The entire country is now divided into five district clearing houses all having reciprocity.

The chairman attended a meeting of the board of directors of the C.B.B.S. in Los Angeles on April 29, 1957. At which time consideration was given to blood bank accreditation by the C.B.B.S. and further discussion of standards for sponsorship of blood banks by the C.M.A.

The chairman of the committee met with the Council of the C.M.A. twice during the fall. At its last meeting in December the committee finalized its thinking regarding the matter of standards for C.M.A. sponsorship of blood banks and the final report will be submitted to the Council of the C.M.A. in January or February. It is hoped that this knotty problem will then be settled once and for all.

Civil Defense: The Serum Albumin Project of the F.C.D.A. as contracted with the American Red Cross ran into serious difficulties because of the "vanishing voluntary donor." Eight out of the twelve C.M.A.-sponsored banks cooperated in this program at considerable sacrifice to themselves. Although not all have met the assigned quotas, it appears they have done as well as or better than the average nationally. Because of poor donor response it has been necessary to extend the program four months into 1958.

Dr. John Upton, president of the C.B.B.S and a member of the Governor's Emergency Medical Advisory Committee, is working out definite plans for cooperation of the blood banks with Civil Defense authorities.

Joint Blood Council: The Joint Blood Council having begun a worthwhile project of assembling information and statistics on all blood collecting and dispensing agencies in the United States and its territories requested that the medical profession be informed of this survey and its importance along with the other functions of the Council.

To that end your chairman prepared an editorial appearing in the November issue of CALIFORNIA MEDICINE.

The twelve banks in the system have continued to give service to their communities in a commendable fashion and a number from the C.B.B.S. have been very active in the national picture by active membership on committees and development of the National Clearing House Program.

The replacement principle for blood is still generally adhered to in the blood banks of the state but with the ever-changing picture of development of insurance and welfare programs there is no way of knowing how the future policies may be affected. On the record of their past performance it seems quite definite that we can trust each bank to adjust to changing circumstances and continue excellent service to the patient and his doctor.

Respectfully submitted,

ANDREW M. HENDERSON, JR., *Chairman*
Committee on Blood Banks

* * *

Committee on Industrial Health

For the greater part, the real activity in California has been within the subcommittee for the Standardization of Joint Measurements in Industrial Injury Cases.

This committee was initially appointed in 1948. There have been changes in the committee roster. During the past year the committee has been reactivated and its current members are: Dr. J. L. Barritt, San Francisco, medical director, Industrial Accident Commission; Dr. William Henry Harrison, San Francisco, assistant medical director, Industrial Accident Commission; Mr. Eli Welch, San Francisco, supervisor, permanent disability rating bureau, Industrial Accident Commission; Dr. George W. Jones, Los Angeles, assistant medical director, Industrial Accident Commission; Dr. Paul Beddoe, Los Angeles, assistant medical director, Industrial Accident Commission; Mr. Jerry M. Crowley, Los Angeles, permanent disability rating specialist, Industrial Accident Commission; Dr. Packard Thurber, Jr., Los Angeles; Dr. Jerome W. Shilling, Los Angeles, ex-officio member; Dr. Packard Thurber, Sr., Los Angeles, chairman.

A published book resulted from their original efforts, "Evaluation of Industrial Disability,"—Oxford University Press, 1950.

The purpose for current activity is to revise this book and generally speaking, from cover to cover. Items currently being particularly considered are: (1) The question of grip; (2) the matter of revision of a few of the measurements; (3) the thumb to spine test; (4) revision of the paragraph on subjective to conform to the outline in Dr. Barritt's recent paper; (5) the matter of "normal"; (6) some further elaboration on the special senses; (7) and others.

This revised book will be printed at an early date.

Find enclosed copy of program of first annual Western Occupational Health Conference, Los Angeles, October 4, 5, and 6, 1957. It would be an understatement to say this was successful—it was superlative.

For your interest, this is an attendance breakdown:

Doctors	99
Nurses	131
Hygienists	27
Safety	24
Management	7
Guests*	25
Others†	41
Total	354
Exhibitors	69
	423

*Guests: Actual guests of participating members, wives, relatives, etc.

†Others: Unclassified registrants.

Other than that which is mentioned in the foregoing, things in the far West are rolling along about the same.

Respectfully submitted,

JEROME W. SHILLING, *Chairman*
Committee on Industrial Health

Committee on Medical Education and Hospitals

This committee held no meetings during the past year.

Respectfully submitted,

WALTER E. MACPHERSON, *Chairman*
Committee on Medical Education and Hospitals

* * *

Committee on Mental Health

Since its conception in 1953 and its inception in 1955, the Committee on Mental Health has had a gradual ontogenesis. Legislation introduced by psychologists has demanded much effort and time. In 1957, the Legislature enacted Assembly Bill 2712, an addition to the Business and Professions Code which prescribes the terms upon which licenses may be issued to practitioners of clinical psychology, creates an examining board in clinical psychology and prescribes its organization, duties and powers, and sets forth the duties and powers of the State Board of Medical Examiners in connection with clinical psychology, and prescribes penalties for violations thereof. This legislation has required and will continue to require frequent, regular meetings of the committee with both the examining board and the representatives of the California State Psychological Association to assist and guide the psychologists in their relations to medicine as well as to assist in the preparation of any indicated legislative amendments. Liaison has been established. Because many members of the respective groups have had long service, ease of communication as well as familiarity with the past history of the groups' inter-relationship is facilitated. It is hoped this invaluable asset of our C.M.A. committee, continuity of service, will continue.

Each of the more than 1000 psychiatrists who are members of both the C.M.A. and the American Psychiatric Association was contacted by the committee and asked to devote his interest and attention to the Community Mental Health Services Bill, also known as the Short-Doyle Act, which was passed at the 1957 Legislative session. This act has long demanded considerable committee attention, effort and time and these demands will continue, although to somewhat decreasing extent. The act permits any county or city or combination of these, voluntarily and with the state matching dollar for dollar to set up an autonomous local program to establish or enlarge outpatient clinics, general hospital inpatient services, and rehabilitation services for persons with psychiatric disorders. Informational, educational, consultant and training features are authorized.

Recently, the Committee on Mental Health has instituted a series of meetings with the chairmen of the mental health committees of the county medical societies throughout the state to assist them in formulating their local mental health needs and integrating them into the Community Mental Health Services program. This interchange with county societies under C.M.A. auspices has provided most desirable grass roots level liaison and communication.

Because liaison and communication have been the keynotes of this year's committee activities, not only has effort been directed toward the grass roots, but also it has been toward parallel organizations and central or national ones. In a broad general way the American Psychiatric Association has a national structure analogous to the A.M.A. California is blanketed by three district branches of the American Psychiatric Association, the Northern, Central and Southern California Psychiatric Societies, which roughly correspond to the C.M.A. in some respects and in other respects to the county medical societies. Some members of the C.M.A. committee hold key offices at the state level district branches and the national levels of the American Psychiatric Association. This dual and sometimes triple "hatmanship" has been especially useful and will become increasingly so. Liaison and communication within the A.M.A. are facilitated and strengthened by the A.M.A. Council on Mental Health which held its fourth annual meeting of the mental health representatives of the state medical associations in November, 1957, at Chicago. The chairman of the C.M.A. Committee on Mental Health represented the C.M.A. at this meeting which dealt with several crucial problems. Here again the principle of continuity of service and committee membership were stressed for the reasons already mentioned above. It is hoped that at all levels within the state, presidents of organizations charged with the responsibility of appointing committees and representatives in mental health areas attempt to set up a rotation and continuity of service system which will permit stability and long term service to play a key role.

A most profitable meeting with Doctor Marshall Porter, State Director of Mental Hygiene, was held fostering coordination of C.M.A. and state psychiatric and mental hygiene efforts.

Alcoholism has been the subject of two conferences in which the C.M.A. Committee on Mental Health was an active participant. In June, 1957, Doctor Karl Bowman represented the committee at the University of California "Interdisciplinary Workshop on Alcoholism in California" held at Lake Arrowhead. In September, 1957, San Francisco was the site of the "Symposium on Alcoholism" sponsored by the C.M.A., the San Francisco Medical Society, and the American Medical Association. C.M.A. Committee on Mental Health member, Doctor Alfred Auerback, served as conference chairman for this most successful meeting.

Insanity laws and problems of suicide are topics soon to come under committee study.

Respectfully submitted,

Matthew Ross, *Chairman*
Committee on Mental Health

* * *

Committee on Postgraduate Activities

During the past year your Postgraduate Activities Committee has continued the program underway since 1950. During the year the undersigned has acted as chairman of the committee, assisted by Herbert W. Jenkins of Sacramento, John E. Young of Fresno and ex-officio members for the medical schools as follows: Seymour M. Farber, University of California, San Francisco; Lowell Rantz, Stanford University; Phil R. Manning, University of Southern California; Thomas H. Sternberg, University of California at Los Angeles; and Harold M. Walton, College of Medical Evangelists. Mrs. Margaret H. Griffith continued as director of Postgraduate Activities and C. A. Broaddus as consultant to the committee.

The advisory group of district representatives from the various geographical areas of the state as follows: E. F. Cain, Anaheim; G. Horace Coshow, Carpinteria; H. C. Covington, Selma; Charles H. Cutler, Sacramento; Max Dunievitz, Auburn; James B. Massengill, Ukiah; J. Leslie Spear, Santa Rosa; and Edwin W. Tucker, Monterey, continued to assist. These physicians have been active in postgraduate activities over the past several years and they were able to assist the Postgraduate Committee greatly in bringing to our attention special problems and needs for postgraduate work in all parts of the state.

We have conducted five two-day Postgraduate Regional Institutes in five regions of the state, each comprising several county medical societies as follows: Southern Counties at Disneyland Hotel; North Coast Counties at Santa Rosa; San Joaquin Valley Counties at Fresno; West Coast Counties at Carmel; Sacramento Valley Counties at Lake Tahoe. The fee was $15.00 to attend any one or all of the Institutes, but will be changed to $20.00 (after first registration, $10.00 each additional Institute) in the 1958 season. Total registration was 974 with over 100 physicians attending more than one Institute, a 32 per cent increase over last year.

TABLE 1.—*Analysis of Institute Registrants*

General practitioners	742	76%
Specialists (80 per cent of these are Board certified)	232	24%
	974	
Graduated from medical school:		
Before 1930	136	
1930 to 1939	283	
1940 to 1944	228	
1945 to 1950	189	
1950 to 1957	138	
	974	

The academic program at each Institute is planned by one of the five medical schools after consultations with the local regional committee representing the various county medical societies. This year three of the Institute programs included multiple panels where physicians had a choice of two or three panels to attend such as has been done previously at the Sacramento Valley Counties Institute. These programs required a sharp increase in number of medical school faculty involved, a total of 75 for the five Institutes over 62 last year.

We are especially indebted to the five medical school postgraduate directors and their fine faculties for the excellent programs they have furnished, and to Regional Chairmen H. C. Barron, Riverside; R. H. Whitten, Fresno; Edwin C. Tucker, Carmel; Robert S. Quinn, Santa Rosa; and C. M. Blumenfeld, Sacramento, for their unstinting efforts in handling all details ensuring the success of these conferences. The presidents and committee chairmen of the Woman's Auxiliaries have assisted greatly with registration and entertainment of wives during the programs.

Circuit Courses, consisting of lectures and conferences, and afternoon clinics in some cases, four in spring and four in fall, were put on in the northern part of the state in Ukiah, Eureka, Napa, Dunsmuir, Chico, Marysville and Auburn, by faculty groups from the University of California and Stanford University Schools of Medicine. There were approximately 158 physicians registered, a 26 per cent increase over last year, in these courses with fee of $25.00 for both fall and spring, and $15.00 for spring only. This fee will be changed to $30.00 and $20.00 for the 1957-58 season. We are grateful to Dr. Farber of University of California and Dr. Rantz of Stanford University and their faculty members who arranged and presented the programs. Local chairmen for Circuit Courses are to be thanked for their continued cooperation. Several resident physicians accompanied instructors from the two schools on the circuit tours, this project supported financially by the C.M.A. Public Relations Department. Reports of the success of this venture from both the schools and the physicians in attendance have led us to plan to continue this venture in the future.

New Circuit Courses were begun in February 1957 in San Luis Obispo, Santa Maria and Santa Barbara with program planned by U.S.C. School of Medicine. These consisted of a series of four consecutive weekly evening lectures in each town plus afternoon hospital clinical sessions in San Luis Obispo and Santa Barbara. Total registration was 65 physicians, making a total registration in all C.M.A.-sponsored courses this year of 1,197 over 962 last year.

Total Circuit Course Registration	223	
General practitioners	164	74%
Specialists	59	26%

An ever-enlarging *Medical Dates Bulletin*, a monthly publication listing all postgraduate courses and medical meetings given in the state, has been published by this committee for the past four years. The *Bulletin* mailing list of nearly 1,000 includes presidents and secretaries of all medical organizations in California, hospitals, medical schools, libraries, etc. Though the *Bulletin* is published monthly in CALIFORNIA MEDICINE, the listing is also offered for publication to all county societies in the state and many county bulletin editors are publishing all or part of *Medical Dates Bulletin.*

In April, the annual Postgraduate statewide all-day conference was held in Los Angeles attended by 40 doctors including the five medical school postgraduate directors, regional representatives from all parts of California, representatives from the Academy of General Practice and other medical organizations including heart, cancer and tuberculosis associations, and the standing members of your committee. This is a unique and important meeting at which work of the past year is reviewed and plans for the coming year are discussed in detail. Joseph Telford, president of the California Academy of General Practice, addressed the group on "Postgraduate Medical Education and Its Relationship to the California Academy of General Practice," and Regional Postgraduate Chairman C. M. Blumenfeld spoke on "Development of a Panel Program by Sacramento Institute Group."

Efforts have been increased this year in bringing to the attention of California Medical Association members reports of new postgraduate courses available to them in the medical schools of the state. Information and many requests made by various physicians and organizations in the state have been sent to the medical schools for specially needed intra and extramural courses. Postgraduate directors of the medical schools have been asked to give talks at each Institute regarding new courses available and new teaching methods being used. Announcements of these courses, by our personnel, have been made and brochures distributed at program planning meetings and during Institute and circuit courses programs. Again this year letters were prepared and mailed to hospitals and organizations regarding several new on-campus postgraduate courses.

Dr. Rosenow and Mrs. Griffith attended the Congress on Medical Education in Chicago in February, 1957. One half day of the program was devoted to Postgraduate program. Copies of papers given were mimeographed by our office and distributed to medical schools and interested physicians in California. Mrs. Griffith attended the meeting of the Association of American Medical Colleges in Atlantic City in October, 1957, including the Postgraduate open meeting. Dr. Glen Shepherd, assistant secretary (Postgraduate) of the Council on Medical Education, American Medical Association, made two trips to California during the past year to study postgraduate medical education in California. Our office planned his schedule in both cases and we were happy to have him visit our Circuit Courses and Institute planning meetings. As a result of Dr. Shepherd's visits, other states are studying the California set-up with the plan of adopting our type of organization. Our office has given wide distribution to the new booklet entitled "A Guide Regarding Objectives and Basic Principles of Postgraduate Medical Education Programs" published by the Council on Medical Education and Hospitals of the A.M.A. in June, 1957.

I wish also to thank members of our committee: Herbert Jenkins and John E. Young, for their valuable services in connection with the Northern Circuit Courses and the Sacramento Valley counties and San Joaquin Institutes, in addition to their attendance and help at all committee meetings and the statewide conference.

Respectfully submitted,
EDWARD C. ROSENOW, JR., *Chairman*
Committee on Postgraduate Activities

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Committee on Rehabilitation

The Committee on Rehabilitation, appointed at the last general meeting of the California Medical Association, has not as yet met. The committee, however, has been active in surveying all literature, publications and proposed legislation relative to rehabilitation in order to inform itself more adequately of this problem.

Most members of the committee and a total of 41 physicians attended the Governor's Conference on Rehabilitation at Sacramento on November 14, 1957. The opinions of the various physicians who attended this conference will be compiled and digested into a brochure for adequate distribution.

In general, the impression of those who attended this conference was that a good deal more formalized education in this field was necessary, particularly in the medical profession. There was also rather general agreement that there is much duplication in the field of rehabilitation and that probably the greatest efficiency in this field will be accomplished by some community effort other than a rehabilitation center with its team approach. It seems a unanimous opinion that the medical profession must take a very active interest in the entire field of rehabilitation and that immediate steps are necessary to stimulate community effort in this direction, as this subject is arousing nationwide interest among many nonmedical groups and it is apparent that this interest is going to expand rapidly. If the medical profession does not throw its efforts heartily into the rehabilitation problem, the medical side of it is very likely to be relegated to nonmedical agencies.

It is planned to have a meeting of the committee and all physicians who attended the Governor's Conference on April 26, 1958, at Los Angeles prior to the meeting of the California Medical Association.

Respectfully submitted,
FRANCIS M. MCKEEVER, *Chairman*
Committee on Rehabilitation

REPORT OF THE COMMISSION ON MEDICAL SERVICES

To the President and the House of Delegates:

The Commission on Medical Services during the past year has concentrated its attention on medical care programs conducted by the state or federal government.

The Medicare Program is apparently well received and operating smoothly. There will be renegotiations in February 1958 on the fee schedule and other provisions of the law. The commission has made recommendations to the Council regarding corrections which should be made at this time.

The program of the Bureau of Vocational Rehabilitation has been reviewed and the commission has recommended to the Council that the county medical societies establish a Committee on Rehabilitation. This has been done and representatives from the county medical societies attended a Governor's Conference on Vocational Rehabilitation of the Physically Handicapped held in Sacramento in November.

Another meeting of the county society representatives who attended that conference is planned for April. It is the hope of the commission that resulting from that meeting will come specific recommendations regarding the C.M.A.'s approach to the field of Vocational Rehabilitation.

A meeting was held with the executive committee of the commission and the executive committee of the board of trustees regarding the possibility of bringing the C.P.S. Schedules A and B up to a level which more closely approximates current fees throughout the state.

It was agreed that, consistent with good business practices, the C.P.S. board of trustees will develop ways and means of increasing income levels so that the relative value study on a $4.00 unit basis can be eventually (even though gradually) implemented on the present Schedule A.

It was also agreed that consistent with good business practices, the C.P.S. board of trustees will develop ways and means of increasing income levels so that the relative value study on a $5.00 unit basis can be eventually implemented on the present Schedule B.

The Committee on Fees, the Committee on Medical Economics and the Committee on Government Financed Medical Care have been very active throughout the year.

The Committee on Indigent and Aged conducted a study in Butte County on Tax-Supported Medical Care for the Needy and a great deal of informative information was obtained from that study.

Dr. H. Gordon MacLean was appointed chairman of the commission following the death of Dr. Hollis Carey of Gridley.

Outlined below are the reports of the various committees serving under the commission.

Respectfully submitted,

H. Gordon MacLean, *Chairman*
Commission on Medical Services

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Committee on Fees

The Committee on Fees of the Commission on Medical Services has met on several occasions throughout the year and has consequently attempted to keep informed on the various programs on medical care with which it is concerned. Some of the more noteworthy have concerned themselves with the following:

The revised Schedule of Fees for Workmen's Compensation was put into effect this year. The fees for the basic services, including the initial visit and the routine follow-up care in the home and hospital, were adjusted upward to a more equitable level. The Committee on Fees intends to continue to study the broad features of this program.

The recent development of the Public Assistance Program through the State Department of Social Welfare, required that a fee schedule be recommended by the C.M.A., and this was done by using the Relative Value Study as a pattern. The Committee on Fees was consulted regarding this feature of the program.

The committee has met with representatives of various state agencies such as the Crippled Children's, the Bureau of Vocational Rehabilitation and others. There has been a definite improvement this year in the fee schedules for the Crippled Children's Services.

The committee has plans to continue meeting with the various state agencies in an effort to arrive at a solution to the problems which exist.

The work of this committee is becoming more complicated each year.

Respectfully submitted,

Francis J. Cox, *Chairman*
Committee on Fees

Committee on Government Financed Medical Care

The work of the Committee on Government Financed Medical Care has been expanded during this year and the committee has been enlarged to include those who have done such yeoman work on the problems confronting us with the program of the State Department of Social Welfare.

There are at present three subcommittees caring for (1) the Veterans' Home Town Care Program, (2) the Dependents' Medical Care Program (Medicare) and (3) the State Department of Social Welfare program.

Each of these subcommittees has been quite active and at the time of this writing any report of these activities would be fragmentary. Supplemental reports may be given at the time of the annual meeting.

Respectfully submitted,

John M. Rumsey, *Chairman*
Committee on Government
Financed Medical Care

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Committee on Indigent and Aged

The Committee on Indigent and Aged conducted a study in Butte County on the cost of providing outpatient services for welfare recipients with the cooperation of Stanford University Medical School and C.P.S. A great deal of information was obtained and a pilot program is under way in Gridley, California. This program is being followed by the committee with a great deal of interest.

The rapid increase in the number of people over the age of 65 in the state poses a continuing problem as to how best to provide medical care for this segment of the population.

The committee is happy to report that industry is beginning to recognize the magnitude of this problem and is beginning to give serious consideration to various methods whereby a retired employee may obtain prepaid medical insurance. The major factor under consideration at this time seems to be to set aside a portion of the retirement fund to be earmarked for the payment of premium following retirement.

Respectfully submitted,

C. L. Cooley, *Chairman*
Committee on Indigent and Aged

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Committee on Medical Economics

The committee's activities have consisted solely of efforts to help C.P.S. develop a Comprehensive Deductible Health Insurance policy, of a pattern somewhat different from existing policies.

It is hoped that the policy will be in final form soon and ready for a field trial.

Respectfully submitted,

Robert M. Shelton, *Chairman*
Committee on Medical Economics

COMMISSION ON PROFESSIONAL WELFARE

To the President and the House of Delegates:

The reports of the two constitutent committees of the commission are as follows:

Committee on Health and Accident Insurance

The Insurance Committee of the California Medical Association has met on the call of the chairman during the course of the year. The business of the committee was minimal this year and it required only one arbitration procedure; handled by the chairman of the committee.

The Insurance Committee was pleased to announce an additional benefit when the insurance carrier agreed to pay from the first day of illness if a person were in a hospital for four or more days. Otherwise there is an eight-day waiting period.

Respectfully submitted,

ARTHUR A. KIRCHNER, *Chairman*
Committee on Health and Accident Insurance

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Medical Review and Advisory Board

The primary objectives of the Medical Review and Advisory Board are:

1. Assisting the regional groups with the negotiation of policies and premiums.

2. Setting of broad policy for the handling of suits within the state.

3. Reviewing all anticipated appeals of law suits and approving or disapproving transfer of such suits to the appellate courts.

4. Developing and monitoring an educational and prevention program.

5. Continuously receiving and analyzing the costs of these programs and the distribution, type and causes of malpractice cases.

6. Continuously receiving the malpractice records of physicians with a review and advisory service, available on request, to county or regional committees on the acceptance of physicians in group programs, the modification of their coverage, or their rejection from the program.

In the main, these objectives have been pursued, and many results obtained during the past year.

The results of the past year's research have been summarized, and are being sent out to all members of the California Medical Association. This summary shows the main causes of malpractice suits. With the use of this material, the C.M.A. and each constitutent county society, can adopt a course of procedure to institute action programs. The results from this study can also be utilized in various teaching centers. These results have indicated that:

1. A great majority of our malpractice suits originate in hospital cases. For this reason hospital studies are being made at this time in the bay area. These hospital studies consist of interviews with everyone connected with the hospitals. Hospitals with good suit records will be used as well as a comparable number of hospitals with poor suit records, and an accurate analysis thus will be possible.

2. The jury study was started in the fall of 1957. Because of certain court calendars, and a desire to have recent juries interviewed, it has been found necessary to shift most of this study to the Los Angeles area. Progress on this is satisfactory, and the findings will help to show the reasons why juries make decisions for and against doctors by reason of their own past experiences, and also how various court room factors influence their decisions.

3. Statistical study. A report on every malpractice case has been requested by the Medical Review and Advisory Board. These reports are first made by the insurance companies, and then followed up on special forms by the county medical society wherein the malpractice case originated. These reports are then coded and classified and still further information concerning the causes and incidents of claims are obtained.

4. Realizing the need for close cooperation between the legal and medical professions, a special liaison committee has been set up to cooperate with a similar committee from the State Bar Association. These committees are composed of leading representatives from various areas throughout the state.

Regional medical panels have been set up in San Francisco, Los Angeles and San Diego. These panels are actively cooperating with the legal profession in affording expert testimony in the defense of the doctor in various malpractice suits, and in defense of the patient where it is felt that the patient needs protection against the doctor. Adequate publicity on these two features of the medical panels is being sought for, and many good results have been obtained. The experiences of these panels in the larger centers will help in formulating policies for the establishment of similar panels in other districts.

I wish to personally thank the other members of the Medical Review and Advisory Board, namely: Doctors Wilbur Bailey, H. I. Burtness, Paul W. Frame, Jr., H. M. Ginsburg, Arthur A. Kirchner, William F. Quinn, Rees B. Rees, and Donald E. Ross, for their assistance.

I also wish to thank Dr. Joseph F. Sadusk, the former chairman of the board, and Mr. Rollen Waterson, for his constant application in serving the board, and lastly but by no means the least, Mr. Howard Hassard, for his unfailing help and advice.

Respectfully submitted,

CARL M. HADLEY, *Chairman*
Medical Review and Advisory Board

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In conclusion, the commission feels that definite progress has been made in the insurance program. We now know many causes of malpractice suits, and their application to prevention should be of great help.

Respectfully submitted,

CARL M. HADLEY, *Chairman*
Commission on Professional Welfare

COMMISSION ON PUBLIC HEALTH AND PUBLIC AGENCIES

To the President and the House of Delegates:

The Commission on Public Health and Public Agencies as with many of the commissions of the association functions mostly through the activities of its committees. Its committees have been active during the year and have reported to the Council from time to time as various problems under their own purview have reached the point of requiring decisions for disbursal of information. The chairmen of the various committees have submitted below their individual reports concerning the activities of their programs.

Since we have had the commission system in its present form in existence for only the last two or three years, I think it appropriate to state that it has frequently proven to be awkward or unsatisfactory for the commission as such to meet. At the most, the commission normally would meet once a year to generally review and summarize the activities of its component committees. Other than that it has very little function. It is the hope of your chairman that in the reconsideration of its organization by the House of Delegates that it may be possible to arrange some type of organization wherein the chairman of the various committees will have occasion to meet together to solve problems and make decisions other than purely in the capacity of a simple administrative function.

Respectfully submitted,
Warren L. Bostick, *Chairman*
Commission on Public Health and Public Agencies

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Committee on Maternal and Child Care

The Committee on Maternal and Child Care has embarked upon a program which calls for the establishment of Subcommittees on Maternal Mortality. The state has been divided into four districts and the Maternal Mortality Committee has been set up in each district.

The purpose of a maternal mortality study is (1) to ascertain the causes of maternal deaths in any given area, (2) to accumulate information and statistics about these deaths, and (3) to utilize this information for postgraduate education through hospital staff meetings, county medical society meetings and publications.

For the past two years, the C.M.A., through its appropriate commissions, has been studying this problem, and has finally set up administrative procedures satisfactory to all concerned. The study is to be a joint effort between the C.M.A. and the California State Department of Public Health. The State Department of Public Health is responsible for collecting the case study material. The C.M.A. is responsible for the correlation of the material obtained and the utilization of this material for educational purposes.

The areas covered by the district committees are as follows:

District 1—James W. Ravenscroft, Chairman, Santa Barbara, San Bernardino, Riverside, Imperial, San Diego, Orange, Ventura.

District 2—William B. Thompson, chairman, Los Angeles.

District 3—T. Floyd Bell, chairman, Marin, Contra Costa, Alameda, San Francisco, San Mateo, Santa Clara, Santa Cruz, San Benito, Monterey, San Luis Obispo, Solano, Sonoma, Napa.

District 4—Warren E. Jones, chairman. *North Coast Area:* Del Norte, Humboldt, Lake, Mendocino. *Sacramento Valley Area:* Butte, Colusa, Glenn, Sacramento, Sutter, Tehama, Yolo, Yuba. *Mountain Area:* Alpine, Amador, Calaveras, Eldorado, Inyo, Lassen, Mariposa, Modoc, Mono, Nevada, Placer, Plumas, Shasta, Sierra, Siskiyou, Trinity, Tuolumne. *San Joaquin Valley Area:* Fresno, Kern, Kings, Madera, Merced, San Joaquin, Stanislaus, Tulare.

Each district chairman is charged with the responsibility of setting up regional committees utilizing the available manpower and medical organizations in his particular district.

The Committee on Maternal and Child Care has had the consultation of the American Academy of General Practice, the state and regional Pediatric and Obstetric Societies and has utilized the work done by other states and the A.M.A. in other fields. The activities of these committees is progressing very well.

Perinatal Mortality Study—An adjunct to this work has been perinatal mortality study committees in each county medical society. This is a new type of study and the areas covered by our endeavor are being defined from general to specific terms. This work must be conducted within each county medical society.

A full report of the activities of the Committee on Maternal and Child Care and the Perinatal mortality studies will be presented soon in the official journal, California Medicine.

The committee would like to take this opportunity to urge those county medical societies that have not established perinatal study groups yet to do so.

Respectfully submitted,
Donald C. Harrington, *Chairman*
Committee on Maternal and Child Care

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Committee on Military Affairs and Civil Defense

The members of this committee are as follows: Frank F. Schade, Los Angeles; Wayne P. Chesbro, Berkeley; Justin J. Stein, Los Angeles, chairman; and L. S. Goerke, Los Angeles, consultant.

Dr. Frank Schade is chairman of the Civil Defense Committee of the Los Angeles County Medical Association and Region I medical chief. Dr. Wayne P. Chesbro is chairman of the Disaster Committee of the Alameda-Contra Costa Medical Association and Region II medical chief. Dr. Justin J. Stein has been chairman of the Governor's Emergency Medical Advisory Committee as well as chairman of this committee since 1950. Dr. L. S. Goerke has been active in medical civil defense in the past and prior to the expiration of the Special Doctor's Draft legislation in selective service.

Following recommendations to the Governor both Dr. Wayne Chesbro and Dr. Frank Schade have been appointed as members of the Governor's Emergency Medical Advisory Committee and have been active in the important work of this committee. It is most important to the California Medical Association that the chairman of this committee and the other members remain a part of the Governor's committee because this is the only effective way in which federal, state, and local planning can be coordinated.

The MEND program was expanded during the past year to include additional courses in military and disaster medicine into the medical schools. Disaster medicine should become a permanent part of all medical school curricula.

Efforts are being made to obtain additional mobile army surgical hospitals for distribution throughout the state. These units are of great value.

During the year an excellent disaster drill with simulated casualties was put on by the Alameda-Contra Costa Disaster Committee under the direction of Dr. Chesbro. A movie was also made. Helicopters, moving vans, three hospitals, and numerous volunteers participated in this excellent drill. Representatives from governmental agencies and private groups witnessed the drill.

The committee members (especially Dr. Chesbro) helped in the formation of a refresher course on military and disaster medicine put on by the Navy during a three-day period in October at Treasure Island. This meeting was so successful that the Navy plans to repeat it.

On October 18, 1957, with the aid of funds provided by the California Medical Association, a one-day program was held which had been planned by the chairman of this committee to provide a review of medical disaster activities in California, for members of the county medical organizations and other interested responsible persons concerned with disaster problems. The meeting was held in San Francisco with approximately one hundred persons attending. Speakers at this meeting included representatives from the Federal Civil Defense Association, from the American Medical Association Council on National Defense, the State Disaster Organization, from county medical associations, and from the California Medical Association. Nursing, dental, hospital organizations, and governmental agencies sent representatives to this meeting. This meeting was of great value and there were many requests that it be repeated.

Dr. Schade and Dr. Stein attended the meeting in Chicago on November 9-10, 1957, on Disaster Medicine sponsored by the Council on National Defense of the American Medical Association. The members of this California Medical Association committee are well known to federal and national disaster groups.

The Governor's Emergency Medical Advisory Committee meets approximately three times each year and on call and these meetings provide an excellent opportunity for the C.M.A. committee members to discuss their problems as well as help formulate medical disaster policies for the California Disaster office. The most cordial relations possible exist between the C.M.A. Committee and the State Disaster officials.

During 1958-1959 this committee will continue to attempt to keep fully informed on disaster legislation—federal, national, state, and local disaster problems—and will maintain a flexible attitude and planning program in order to quickly make changes as the needs arise.

The Special Doctors' Draft legislation expired June 30, 1957. It has been strongly recommended that the national, state, and county committee structures remain intact to provide advice and guidance to selective service.

Organized medicine's active support of the armed forces career program, including senior medical student commissioning, residents commissioning and deferment, and the internship and residency programs, is again recommended.

Respectfully submitted,

JUSTIN J. STEIN, *Chairman*
Committee on Military Affairs and Civil Defense

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Committee on Other Professions

During 1957 the Committee on Other Professions held three meetings with a comparable committee from the California Osteopathic Association and one meeting each with the California State Nurses Association and the California Association of Chiropodists. One member of the committee also attended a meeting of the California State Board of Nurse Examiners.

The relationship of the California Medical Association to the above mentioned organizations is satisfactory and liaison with these organizations is sufficiently close to permit ready consideration of any problem of mutual interest. The mutual problems of the osteopathic and medical professions in California have continued to occupy the major portion of this committee's activities. The over-all solution of the osteopathic problem in California has many ramifications and presents many practical difficulties. However there is an apparent willingness on the part of both professions to attempt to resolve these problems and although it is unlikely that this can be done immediately it seems possible that ultimately a mutually agreeable solution may be obtained.

Respectfully submitted,

WAYNE POLLOCK, *Chairman*
J. PHILIP SAMPSON
WILLIAM KAISER
Committee on Other Professions

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Committee on Rural and Community Health

The activities of the Committee on Rural and Community Health, during the past year, have been primarily in conjunction with its participation on the California Rural Health Council. This has once again proven to be a most happy association. There are now fourteen organizations on the Rural Health Council, representing almost as many segments of our population. Naturally, each of these groups has its own concept of what is involved in community health and each, if it functioned alone, would develop its own approach and attempted solution to these problems. C.M.A. representation through its Committee on Rural and Community Health enables us to lend invaluable service in molding and developing these concepts into acceptable and unified plans of action.

For the fourth consecutive year, our activities on the Rural Health Council reached their climax in the annual conference on rural health, held this year in Bakersfield, California. The California Medical Assocation played a prominent part in this year's conference in that Mr. Glenn Gillette of the Public Relations Department acted as conference chairman, and did an outstanding organizational job. Also several members of the California Medical Association appeared on the program. This conference, as in previous years, provided us with an excellent opportunity to learn the problems of other groups and to indicate our interest and activities in a cooperative solution to these problems.

In previous years we have indicated a need for more liaison with the community and rural health committees in the various county societies. This year, a somewhat greater effort has been made to stimulate interest and activity on this level. A "Program of Action" and sundry reference material has been mailed to each of the county societies. A still more active program of this nature is envisoned for the coming year.

Respectfully submitted,

ROBB SMITH, *Chairman*
Committee on Rural and Community Health

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Committee on School Health

The committee this year held two meetings in February, one in the northern part of the state and one in the southern, to bring together the school health committees of the local county societies with outstanding authorities on school health. Many school health committees have felt at a loss as to just what to do in their local programs and it was felt that this type of meeting with smaller groups consisting only of doctors, where questions and answers could be given by a panel of experts, would be very helpful. In this way it is hoped that the school health program would be stimulated.

The American Medical Association held its Fifth Conference on Physicians and Schools in Chicago in November, and Dr. Albert C. Daniels and Mr. Robert Thomas represented the California Medical Association.

A great deal more work needs to be done in this field and it is hoped that this committee will become more active on a statewide program. It is contemplated that there should be another statewide conference this fall to bring together the various disciplines on school health.

Respectfully submitted,

ALBERT C. DANIELS, *Chairman*
Committee on School Health

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Committee on State Medical Services

As has been the case in the past few years this committee has met regularly and frequently. It has remained in close contact with the State Department of Public Health and has frequently been called upon to guide the various state agencies in their contact with California medicine. Almost invariably it meets immediately before the regular meeting of the Council in order to bring up to date the current problems of our two various spheres of activity. Your chairman has also participated in the State Health Department Crippled Children's Services as well as participating in the ad hoc advisory committee of poliomyelitis vaccination and later influenza vaccine deliberation.

It is the opinion of your chairman that this committee works very efficiently and fulfills its functions in a most satisfactory manner.

It should be remarked that during this year, the committee lost one of its most distinguished and valuable members. With the passing of Dr. Hollis Carey in the latter part of the year a great deal of energy and background information for all of medicine slipped away from us. He has been replaced on the committee by Dr. O. W. Wheeler.

Respectfully submitted,

Warren L. Bostick, *Chairman*
Committee on State Medical Services

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Committee on Veterans Affairs

During the past year there has been the usual number of bills introduced in the Congress designed to extend or preserve veterans' benefits. The administration has been trying to transfer some of the nonservice veterans' benefits from the Veterans Administration to Social Security but has not succeeded in this endeavor. Veterans were able to secure laws which permit them to draw both nonservice disability and social security benefits. There will be more bills introduced in behalf of veterans with the same basic idea as last year—to preserve what they have won and to gain more. The theory behind trying to gain more is that what they have will be preserved and they may get more. The best defense is offense. So far this strategy has worked.

There is a strong move to get $100 per month for nonservice disability for World War I veterans. The Legion is not exactly opposed to this legislation but wants a needs clause as a prior requirement. Other veterans' organizations are less inhibited in their demands for this legislation.

The problem of resident training in Veterans Administration Facilities and the cost of such training has been a matter of concern to this committee. It seems wasteful to run such a training program when private hospitals which are not exactly tax exempt, are unable to get residents in sufficient numbers to meet their needs. This year is an opportune time for the California Medical Association to add its voice to all those who need tax relief.

Respectfully submitted,

Berthel H. Henning, *Chairman*
Committee on Veterans Affairs

COMMISSION ON PUBLIC POLICY

To the President and the House of Delegates:

Committee on Public Relations

With the permission of the President and the members of the House of Delegates, the members of the Committee on Public Relations request the privilege of permitting Dr. Sidney Shipman, chairman, to make a supplementary report from the floor at the 1958 meeting of the Association. As of this date, the committee has not met. A meeting is scheduled for an early date to consider all matters relative to public relations.

* * *

The collective dignity of the profession finds expression in the actions of the individual physician.

The success or failure of the public relations efforts for the entire profession, how its high ideals of dedication to service of the public are interpreted, can best be measured in the California press; not by an inventory conducted by ourselves!

It has long been the *policy* of the Public Relations Department, working in close harmony with the county societies, to encourage the development of basic programs of public service.

It has been the *experience* of the department that the press, without press-agentry pressures, will commend what is good. Likewise (and we would have it no other way), pressures will not prevent just criticisms.

Here then is what the press had to say about us during the past year; how editors evaluated our efforts:

From the *Los Angeles Examiner:*

"Medical Triumph—One of the most gratifying improvements of recent years in the formerly sensitive relationship between the public and the medical profession, has been the constructively enlightened attitude of the Los Angeles County Medical Association.

"This fine professional group took an early lead in removing, through a program of public information, two obstacles to full confidence between patient and physician: Undue fear of the unexplained on the part of the patient and excessive reserve on the part of the doctor.

"This lead by the medical association was a strong factor in the great recent increase of scientific information on health and disease published in the daily press.

"Medicine's problems and victories have become big news and popular news without, in any way, marring the high ethical standard of the profession. . . .

"An important by-product of the association's public relations policy *is the subsidence of clamor for socialized medicine.*

"Under government control of medical practice, the patient takes whatever he is given, the doctor gets whatever fees the state dictates, and neither has any choice nor recourse.

"Also remarkable has been the success of the public information service through which the county association refers patients to the proper doctors for treatment, on request.

"This alone did much to erase long-standing and groundless suspicions of 'doctors' cliques,' overpricing, fee-splitting, incompetence and 'being kept in the dark' through the hush-hush secrecy that used to cloak all medical activity.

"The association has thus realized that patients are people, that they want the truth as much as they want effective treatment, and that the farther the truth is spread the better for the medical profession and the people's health.

"To have done this is by no means the least triumph of a scientific age."

The "transformation" of medical public relations resulted in this editorial in the *Stockton Record:*

"This kind of enterprise (mobilizing of county society to meet possible outbreak of Asian flu) has become commonplace in recent years. Nevertheless, it does represent a transformation in the past decade of a professional society whose activities and interests seldom touched the public previously. Some of the ventures which come to mind are the mass program of inoculation against polio, standardization of fees, provision for adjustment of patient's complaints, the establishment of a foundation to provide medical group insurance, operation of the blood donor center, leadership in the artery bank, and numerous services to public and private agencies. Always the profession of medicine has been essential to the community, but this healing role has been vastly enlarged as the doctors applied their organization to meet community needs. We have a feeling that the doctors are happier in this relationship, and certainly the people are impressed with the evidences of such social consciousness."

The editor of the *Palo Alto Times* expressed his personal observations of the profession as follows:

"In the past I have been critical of doctors, but my criticism has never had anything to do with the importance of their work in the cause of humanity. Most of this criticism has been in connection with their public relations, which they themselves worry about considerably. I still think that some doctors develop a pomposity that makes them insufferable. And there seems to be a collective medical attitude that differs from the more human individual reactions of the doctors. These are in the fields in which there can be improvement. But most of the doctors I know are devoted journeymen in the field of alleviating human misery and spend long hours at their work. I sometimes wonder how their families put up with them. . . ."

On the other side of the public relations coin, all members of a county society came in for editorial criticism when it was charged one of the members did not respond to an emergency call.

This preponderantly positive public relations score demonstrates that the profession's basic program *is* a "long range policy"; that good performance *today* encourages better performance *tomorrow* and augurs well for Medicine's public acceptance next year—and the next!

* * *

The close of the year found healthy disagreement in a number of county societies over the operation of the Public Assistance Medical Care Program. Thus far, formal opposition has been accompanied by forthright statements to the public. Without attempting to influence policy on this question, we do however, wish to point out the wisdom of informing the public of whatever stand is taken—and the reasons therefor! To do less invites public relations dangers. To retreat from a stand once taken invites public relations disaster!

* * *

The January 1958 issue of *Newsletter* pointed out the increasing number of "packaged patients," patients coming to physicians' offices with a variety of insured coverages, payment, for the most part, to be made by third parties.

We call attention to the members that third parties in California account for an estimated one million dollars per day in medical care.

This figure, in itself, is alarming. What is even more alarming is that, while the medical profession calls the prepaying agent the "third party," many insurance companies relegate the physician—the person who provides the actual care—to a "third party" status.

We look to the membership for policy direction that will enable us to place and keep the profession as the "party of the first part" in all labor, management and insurance considerations.

The year 1958 is an election year. And, as pointed out by the *Wall Street Journal*, "Congressmen clearly rate the basic political appeal of 'doing something for the old folks' as strong as they did in 1950, 1952, 1954 and 1956 when they liberalized the social security setup."

California physicians have already experienced a small taste of the turmoil of this "liberalization."

Since "social security" stems from Washington, members of C.M.A. must look to A.M.A. for the basic program if medical standards are to be maintained. We must then be prepared for an all-out effort.

The task will not be an easy one when it is remembered (what politicians already know) that benefits usually go into effect before the election—the tax increase comes later.

* * *

As reported in a recent survey of the California Medical Association, "it must be borne in mind that C.M.A. is neither a corporation or a military organization."

As such, committees can issue no directives or commands with threats of dire consequences if they are not carried out. Quite the contrary, each individual physician *is* his county society, his C.M.A. and his American Medical Association.

Working within this framework where "every man is king," your Public Relations Committee depends upon the alert and intelligent cooperation of county society officers and the individual members for its success.

We are pleased to report that 1957 showed a measurable uptrend in this vital cooperation!

Respectfully submitted,
Sidney J. Shipman, *Chairman*
Committee on Public Relations

* * *

Committee on Legislation

The following report is an interim report of the Committee on Legislation of the California Medical Association and, with the permission of the President and members of the House of Delegates, your chairman will render a supplementary report from the floor at the 1958 meeting of the House of Delegates of the California Medical Association.

The year 1957 was a very busy year for the members of your committee. The California Legislature met in regular session during the first half of this year and many bills of interest to medicine were introduced.

As usual, medicine was well represented in Sacramento through the able assistance of Mr. Ben Read, executive secretary of the Public Health League and Mr. Gene Salisbury, assistant executive secretary of the Public Health League. Mr. Howard Hassard, legal counsel of the California Medical Association, spent many arduous hours assisting your committee in carrying out their various duties.

On behalf of your committee, composed of J. Lafe Ludwig, M.D., Justin Williams, M.D. and myself, I wish to extend thanks to the many physicians of California and to the executive secretaries who were of marked assistance to your committee in carrying out their responsibilities throughout this past year.

Respectfully submitted,
Dan O. Kilroy, *Chairman*
Committee on Legislation and
Commission on Public Policy

JUDICIAL COMMISSION

To the President and the House of Delegates:

The Judicial Commission was established for the sole purpose of hearing appeals brought by members from decisions of the component county medical societies in disciplinary cases. Where such appeals were heard by the C.M.A. Council prior to 1955, the Judicial Commission has now been given this responsibility as a continuing body which can gain experience in the orderly processing of such appeals. Fortunately, to date the commission has had little call for its services.

During 1957 the Judicial Commission did not hear any appeals. At the year-end there are two appeals pending, both of which will be scheduled for hearing at the earliest possible dates in 1958.

Respectfully submitted,
DONALD A. CHARNOCK, *Chairman*

REPORTS OF STANDING COMMITTEES

AUDITING COMMITTEE

To the President and the House of Delegates:

The principal duties of the Auditing Committee are to review the monthly disbursements made by the Association and to prepare an annual budget for submittal to the Council and thence to the House of Delegates.

During 1957 members of the committee have reviewed all disbursements monthly, the chairman has signed all voucher checks as one of two signatories, and a budget for the 1958-1959 fiscal year has been put into preliminary form. Checks on the Association's revolving fund, which are issued to meet office payrolls and statements which require immediate payment, require only one signature but such checks are reviewed monthly by at least two members of the Auditing Committee. At the close of each fiscal year, June 30, the Association's books are audited by certified public accountants, whose statements are published in this issue under the report of the Treasurer.

Respectfully submitted,
IVAN C. HERON, *Chairman*

COMMITTEE ON SCIENTIFIC WORK

To the President and the House of Delegates:

This year, the Committee on Scientific Work has innovated postgraduate courses as an added attraction at the annual session. These courses were a direct outgrowth of suggestions made by Dr. Donald W. Petit, chairman of the Section on Internal Medicine.

The object of the postgraduate courses is to widen the scope of the annual session and not to detract from the value of the section meetings. The guests of the Association will also be used in the postgraduate teaching.

Because of the rearrangement of meetings, the committee has met three times instead of the usual two. The Council took action in January authorizing the Committee on Scientific Work to select the five guest speakers in the future; it is hoped that this will give better overall coordination to the meetings and an opportunity to use all five guest speakers to better advantage. Two sections a year will still have a guest speaker but he will be chosen by the Committee on Scientific Work with the advice of the section.

Again there will be no television, but the outstanding motion picture program always put on by Dr. Arthur E. Smith will be an important part of the program; the entire committee feels a deep sense of obligation to Dr. Smith for his outstanding work.

The help of the staff in arranging for the annual session cannot be praised too highly. Mr. Robert Thomas, Mr. Robert Edwards and Mrs. Barbara Rooney have played a very great role in its success.

Respectfully submitted,
ALBERT C. DANIELS, *Chairman*

REPORT OF MEDICAL EXECUTIVES CONFERENCE

To the President and the House of Delegates:

The Medical Executives Conference is a body whose members are appointed by the Council as an advisory body. Its membership consists of the staff executives of the Association and the fulltime executive secretaries of the county medical societies. In addition, its meetings are attended, on an invitational basis, by other county society employees and by representatives of allied groups, such as California Physicians' Service and the California Academy of General Practice.

This conference has authority only to offer suggestions to the Council for its consideration. At the same time, the group furnishes an excellent meeting place for the discussion of numerous problems and programs confronting medical organizations and provides an ideal medium for communication between the Association and its larger societies, which represent over 90 per cent of the total membership. Meetings are generally scheduled for the day preceding Council meetings, so that the members may remain for the Council sessions and thus keep themselves and their constituents abreast of current Association activities and policies. Meetings of this nature have been held throughout 1957, during which numerous items of a public relations or public service character have been thoroughly discussed. Similar meetings will be planned in advance of Council meetings during 1958.

Respectfully submitted,
JOHN HUNTON, *Chairman*

REPORTS OF SPECIAL COMMITTEES

COMMITTEE ON HISTORY AND OBITUARIES

To the President and the House of Delegates:

The work of this committee has been carried on the past year without the necessity of meeting. One hundred fifty obituaries have appeared in CALIFORNIA MEDICINE, five more than in the previous year. Some work has been done upon compilation of our society's history but its serial publication in CALIFORNIA MEDICINE, is still some time in the future.

Respectfully submitted,
J. MARION READ, *Chairman*

DELEGATES TO THE AMERICAN MEDICAL ASSOCIATION

To the President and the House of Delegates:

The June meeting of the American Medical Association House of Delegates found the California delegation actively working throughout the convention, both on the floor and in reference committees. Dr. Dwight Murray of California was given a rousing ovation as retiring president. Dr. E. Vincent Askey was reelected Speaker of the House, and Robertson Ward was elected to the Judicial Council. The California delegation pursued its usual vigorous and effective activities throughout the convention, serving on committees and appearing before committees as well as appearing at the House.

The interim meeting of the House of Delegates of the American Medical Association in Philadelphia in December

1957, found a full representation of California delegates with Henry Gibbons seated for Robertson Ward, although Dr. Ward was present and working as a member of the Judicial Council and assisting with the delegation. Dr. Edward Rosenow served for Dr. Feldmeyer. Dr. Feldmeyer was unable to attend this convention because of the death of his associate at home. Dr. Van Dyke served for Dr. Ludwig. Dr. Ludwig was present and active in the delegation but was busy also with meetings of the Council on Medical Service of which he is a member. All delegates except Dr. Feldmeyer were present and active and alternate delegates, Donald Charnock, Burt Davis, Henry Gibbons, Arthur Kirchner, Hartzell Ray, Edward Rosenow, H. Milton Van Dyke, and Dr. John Vaughan were all on hand and worked as members of the California team.

Section delegates, Ed Tuohy of anesthesiology, Rutherford Johnstone of preventive medicine, J. J. Crane of the section of urology, all Californians, were with the delegation as well. Dr. Leopold Fraser served as chairman of the important Reference Committee on Amendments to the Constitution and By-Laws. Dr. J. J. Crane was chairman of the Reference Committee on Medical Education and Hospitals. Dwight Wilbur served on the Reference Committee on Reports of Board of Trustees and Secretary. Edward Tuohy was on the Reference Committee on Credentials. Dr. Donald Cass was on the Reference Committee on Executive Session. Dr. Rutherford Johnstone was on the Reference Committee on Insurance and Medical Service. Dr. Eugene Hoffman was on the Reference Committee on Legislation and Public Relations. Dr. Frank MacDonald was on the Reference Committee on Miscellaneous Business. Dr. Ed. Rosenow served as a teller.

Past President Dwight Murray was presented with an official citation by the United States Navy for service to Navy personnel in the South Pacific during his tour as president of the American Medical Association, when Dr. Murray took an extended tour of the medical facilities and installations in the South Pacific, bringing good will from the American Medical Association to our outlying medical posts.

A California resolution requesting the American Medical Association to send all the information and literature sent to regular delegates to alternates as well was passed by the House of Delegates.

The report on the survey by the Heller Committee was completely discussed and accepted as modified by the Study Committee headed by Chairman Hyland of Michigan. Dr. Lewis Alesen of California served on the Hyland Committee. The only changes made were to delete the restricting of American Medical Association trustees to districts and also it was voted to retain the Councils on Medical Education and Hospitals as well as the Council on Medical Service by the House of Delegates and not transferred to the Board of Trustees. There was a considerable number of changes in the names or titles of the officers of the Association. These constitutional changes will be completed by the Legal Department and the Council on Constitution and By-Laws and be presented to the House of Delegates at the next regular meeting in San Francisco in 1958.

In conclusion, I will call attention to the extensive participation in American Medical Association headquarters activities on permanent committees by Californians. The immediate past president and member of the Council on Medical Service, Dr. Dwight Murray; the Speaker of the House of Delegates, Dr. E. Vincent Askey who also serves as an observer with the privilege of attending all meetings of the Board of Trustees of the American Medical Association; on the Judicial Council, Robertson Ward; the Council on Medical Education and Hospitals, John Cline; the Council on Medical Services, Dr. J. Lafe Ludwig and Dwight Murray; the Council on Drugs, W. C. Cutting; the Council on Medical Physics, Frederick C. Bost; the Council on Foods and Nutrition, W. H. Griffith; the Council on Industrial Health, Rutherford Johnstone; the Council on Rural Health, C. B. Andrews; the Council on Legislation, J. Lafe Ludwig. These Councils and standing committees are all very important, meet regularly and are responsible for a large part of the American Medical Association accomplishments.

Respectfully submitted,
Donald Cass, *Chairman*

REGISTRATION

Registration and information desks are located in the Ballroom Foyer, Casino Floor. *All members, guests, and visitors are requested to register immediately on arrival.* There is no charge for registration except for Postgraduate Courses. Registration desks are open Saturday through Wednesday. *Admission to the general and section sessions and exhibit areas is by badge only.*

APPLICATION FOR HOUSING ACCOMMODATIONS

FOR YOUR CONVENIENCE in making hotel reservations for the coming meeting of the **California Medical Association,** April 27 to 30, 1958, Los Angeles, hotels and their rates are at the right. Use the form at the bottom of this page, indicating your first and second choice. Because of the limited number of single rooms available, you will stand a much better chance of securing accommodations of your choice if your request calls for rooms to be occupied by two or more persons. **All requests for reservations must give definite date and hour of arrival as well as definite date and approximate hour of departure; also names and addresses of all occupants of hotel rooms must be included.**

ALL RESERVATIONS MUST BE RECEIVED BEFORE: APRIL 1, 1958

Eighty-seventh Annual Session
CALIFORNIA MEDICAL ASSOCIATION
Los Angeles, California
APRIL 27-30, 1958

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HOTEL CHANCELLOR 3191 West Seventh Street	7.00- 8.00	10.00-12.00	
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***The above quoted rates are existing rates but are subject to any change which may be made in the future.**

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THE NAME OF EACH HOTEL GUEST MUST BE LISTED. Therefore, please include the names of both persons for each twin-bedded room requested. Names and addresses of all persons for whom you are requesting reservations and who will occupy the rooms asked for:

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CLASSIFIED ADVERTISEMENTS

(Continued from Front Advertising Section, Page 42)

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ROTATING INTERNSHIP—Approved 250 bed general hospital in San Francisco, with active teaching service. Stipend $300.00 monthly and maintenance. Applicants must be eligible for California license. Contact: EDUCATION COMMITTEE, St. Luke's Hospital, 1580 Valencia Street, San Francisco, California.

SURGICAL RESIDENCY—Approved 250 bed general hospital in San Francisco. Three year approval, large out-patient department and clinic service. Stipend $325.00 per month first year, plus maintenance. Contact: EDUCATIONAL COMMITTEE, St. Luke's Hospital, 1580 Valencia Street, San Francisco, California.

PRACTICES FOR SALE

EAST BAY AREA GENERAL PRACTICE, downtown street level, fully equipped office, lease. Moderate down payment, balance over three to four years from income. Reason for leaving, further training. Box 94,070, California Medicine.

FOR SALE: GENERAL PRACTICE, grossing $36,000, 25 miles east of San Francisco. Completely equipped five-room air-conditioned office, plus laboratory. Growing area 60,000. Terms. Box 94,090, California Medicine.

GENERAL PRACTICE—Near Long Beach, grossing $50,000. Take over lease, or may purchase home and well equipped office. Terms available. Specializing. Box 94,095, California Medicine.

GENERAL PRACTITIONER, or other physician, wanted by July. Residency plans. Assume practice in town of 10,000, two hours from San Francisco. Little outlay needed. Can limit practice. Box 94,050, California Medicine.

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FOR SALE: X-RAY MACHINERY. 200 Picker diagnostic unit with stationary Bucky table, rotating anode. Cost $7,500, will sell $3,750. 220 Westinghouse duocondex therapy unit, includes table, mattress-sliding leaded door with window, older unit $2,200. Prices net, my office, San Francisco. Offers invited. Box 94,100, California Medicine.

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HOSPITAL CONSTRUCTION

HOSPITAL—Would like to contact any group of doctors needing hospital facilities. Can furnish specifications, plans, and financing, if you have the right set-up. State location and number of doctors. Box 94,045, California Medicine.

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(Continued on Page 82)

Wider Use of Clinical Center by MD's Indicated

Probably thousands of American physicians are unaware of the existence of the Clinical Center of National Institutes of Health. This is most plausible explanation of fact that so few of them beyond a 100-mile radius of Washington refer patients to this unique institution situated on periphery of the Capital City.

In 1956 there were 2,095 discharges from the Center. (This is a small number for 500-bed hospital, but in this facility the average length of patient stay is 40 days). Of that total, 1,399 patients came from Washington and the neighboring states of Maryland and Virginia.

From all of New England there were only 18 patients, despite the fact that its most remote spot from Washington is only an over-night train ride. Thickly populated Midwestern states of Illinois, Michigan, Ohio, Indiana and Wisconsin accounted for *less than 100 combined.* Physicians in Montana, Utah, New Mexico, Maine and Rhode Island did not refer a single patient to the Clinical Center. All of Texas produced only nine and California but 11.

This extraordinary Federal institution has just published an up to date guide to current clinical studies and procedures for referral of patients. Upon request to Clinical Center, NIH, Bethesda 14, Md., copies of booklet may be obtained by individual physicians, as well as hospitals, clinics, medical schools and medical societies.

Institute by institute—heart, cancer, mental and the rest—the publication describes studies currently under way and for which additional patients may be required. To mention but a few: Surgical and chemotherapeutic investigations of cancer; more than a dozen approaches in cardiology; explorations of infectious hepatitis, aseptic meningitis, leptospirosis and other infections; all forms of psychotherapy; experimental treatment of metabolic diseases; glaucoma and virus infections of the conjunctiva and cornea.

Among them all, the studies utilize persons of all ages from infancy onward. Some are used for short periods but the majority for protracted stays in the large ultra-modern Clinical Center. No charge is made to patients admitted for study and treatment.

Physicians who may wish to arrange for a patient's admission should prepare a brief summary of medical history and current situation and mail to Director, Clinical Center.

Sometimes, but not always, the Clinical Center calls for an interview and examination of the prospective patient. Its social service department assists in handling of personal problems incidental to hospitalization in this facility away from home.

For further information on policies and procedures, physicians should write for a copy of "Current Clinical Studies and Patient Referral Procedures."

—*Washington Stethoscope*

New Hormone Relieves Scleroderma Symptoms

A new hormone that prevents premature birth is also useful in the treatment of a rare skin disease, scleroderma, two Florida physicians have reported.

The hormone is relaxin (Releasin), which is synthesized from an extract of the ovaries of pregnant sows. Working with other hormones, relaxin influences the contraction of the uterus in pregnancy and labor.

It also has an effect on the elasticity of the skin. This effect is important in the treatment of scleroderma, Drs. Gus G. Casten and Robert J. Boucek, Miami, said in the January 25 issue of the *Journal of the American Medical Association.*

In scleroderma, the skin hardens, restricting movement. The blood supply is cut off, causing fingers, toes, and ankles to ulcerate. In addition to affecting the skin, the disease eventually attacks the internal organs.

The Florida physicians gave relaxin to 23 patients. While it had no effect on the disease itself, it did cause "significant improvement" in skin tightness, blood flow in the extremities, and ulceration. In fact, several patients improved enough to return to work.

—A.M.A. Washington Letter

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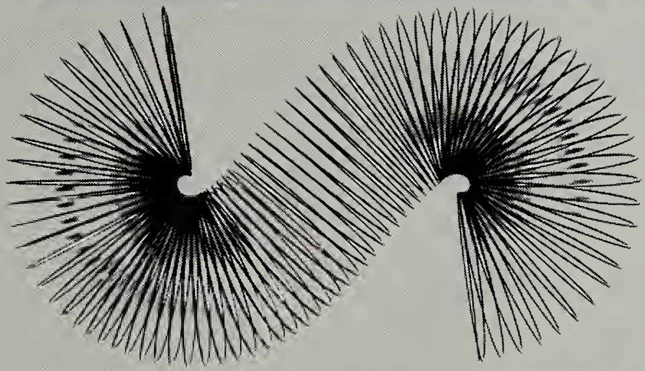

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References:

1. McHardy, G. and Browne, D. C.: South. M. J. 45:1139, 1952. 2. Hock, C. W.: J.M.A. Ga. 40:22, 1951. 3. Hufford, A. R.: Am. J. Dig. Dis. 19:257, 1952. 4. Brown, Jr., D. W. and Guilbert, G. D.: Am. J. Ophthal. 36:1735, 1953. 5. Cholst, M., Goodstein, S., Berens, C. and Cinotti, A.: Scientific Exhibit, A.M.A., June, 1957.

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Disease Reporting Serves Twofold Purpose

The reporting of a disease to public health officials does more than just help control the spread of the disease, according to an editorial in the February 1 issue of the *Journal of the American Medical Association.*

The first and most immediate use of information gained from disease reporting is in the local community. The public health officials and local physicians use the reports in mapping their campaigns to prevent the spread of contagious diseases.

But the information serves an even wider purpose, the editorial said. It provides the entire medical profession with "three tools" that are important in the whole picture of disease prevention and the practice of medicine.

These tools are an estimate of the incidence and prevalence of many specific illnesses; a picture of the long-term trend of the occurrence of various diseases, and information about the distribution of certain diseases according to sex, age, race, environment, and other population characteristics, the editorial said.

The diseases which are reportable vary according to the local community, but they usually include the major contagious diseases, such as poliomyelitis, smallpox, chicken pox, and scarlet fever.

For topical treatment of DENUDED and PAINFUL SKIN LESIONS

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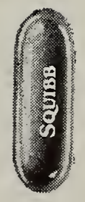

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CLASSIFIED ADVERTISEMENTS

(Continued from Page 70)

OFFICES FOR SALE, RENT OR LEASE *(Continued)*

NORTHRIDGE, 8540 Medical Arts Building, 8540 Reseda Boulevard, California. Five new desirable air-conditioned suites available. 700-1100 sq. ft. Outstanding location. Utilities, elevator, laboratory, X-ray, and Pharmacy. DI 2-3135.

LARGE MEDICAL BLDG. (10,000 SQ. FT.) to be constructed in heavily populated residential area. No doctors close. Pharmacy, laboratory, x-ray. Specialists, G. P. and Dental space. Will lease offices or sell as package deal. Arrow Investment Company, 18519 East Arrow Highway, Covina, California. Telephone: EDgewood 2-6818.

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NEW MEDICAL SUITE in ideal area in the balanced community of Anaheim, California. Beautiful, modern building containing air-conditioning, F.M., etc. Located in a seven-suite pharmacy center. Available April 1, 1958. Contact William Kott, D.D.S., 601 South Palm Street, Anaheim, California. Telephone: PRospect 2-0630.

SOUTHERN CALIFORNIA—SANTA ANA, medical center of Orange County, rapidly growing community with stabilized agricultural and industrial economy, thirty miles southeast Los Angeles and ten miles from Pacific. Seventeen custom designed suites with private entrances from landscaped court. Filtered refrigerated and heated air thermostatically controlled. Available March, 1958. Brochures on Center, Santa Ana and Orange County available. Santa Ana Medical Center—2515 North Main Street, Santa Ana, California.

ARCHITECTURALLY DESIGNED MEDICAL SUITES AVAILABLE—Individually air-conditioned and heated, planted patios, many extra features. Ample parking. Anaheim, California, population 91,000, M.D.'s 43. Owner: L. A. Mannes, 9602 Orange Avenue, Anaheim.

PALO ALTO NEW MEDICAL DENTAL SUITES NOW READY. Alma Street and East Meadows Drive. Very attractive building on ground floor within extensive landscaped area. Ample off-street parking, and located in fast growing section away from congestion. Air conditioned. E. J. Nackord, Owner. P. O. Box 601, San Carlos. Descriptive brochure available. Telephone LY 1-0986.

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BOOKS RECEIVED

Books received by CALIFORNIA MEDICINE *are acknowledged in this column. Selections will be made for more extensive review in the interests of readers as space permits.*

ATLAS OF REGIONAL DERMATOLOGY, AN—G. H. Percival, M.D., Ph.D., D.P.H. Grant Professor of Dermatology, University of Edinburgh; Physician to the Skin Department Royal Infirmary, Edinburgh; and T. C. Dodds, F.I.M.L.T., F.I.B.P., R.F.P.S. Laboratory Supervisor, Department of Pathology, University of Edinburgh; Head of Photomicrography Unit at Department of Pathology, University of Edinburgh. The Williams and Wilkins Co., Mount Royal and Guilford Avenues, Baltimore 2, Maryland. 264 pages, $19.00.

PETER T. BOHAN MEMORIAL LECTURES ON MEDICINE, THE—First Series—University of Kansas Press 1957. Date of publication: December 30, 1957. 128 pages, $3.00.

CHEMICAL DYNAMICS OF BONE MINERAL, THE—William F. Neuman and Margaret W. Neuman, Editors. The University of Chicago Committee on Publications in Biology and Medicine. The University of Chicago Press, 5750 Ellis Avenue, Chicago 37, Ill. 209 pages, $5.00.

CLINICAL HEART DISEASE—Samuel A. Levine, M.D., F.A.C.P. Clinical Professor of Medicine, Harvard Medical School; Physician, The Peter Bent Brigham Hospital, Boston; Consultant Cardiologist, Newton-Wellesley Hospital; Physician, New England Baptist Hospital. Fifth Edition, Illustrated. W. B. Saunders Co., Philadelphia and London, 1958. 673 pages, $9.50.

CORTISONE THERAPY—J. H. Glyn, M.A. (Cantab), M.D., M.R.C.P., D. Phys. Med. Consultant in Physical Medicine to the Prince of Wales and Tottenham Group of Hospitals, London, England. Mainly applied to the Rheumatic Diseases. Philosophical Library, Inc., Publishers. 15 E. 40th Street, New York 16, N. Y. 162 pages, $10.00.

DOCTOR'S MARITAL GUIDE FOR PATIENTS, A—Four Editions—English, regular; English, Catholic; Spanish, regular, and Spanish, Catholic—Bernard R. Greenblat, B.S., M.D., Associate Attending Physician, Obstetrics and Gynecology, Kings County Hospital, Brooklyn, Clinical Instructor, University of the State of New York, School of Medicine, Brooklyn. The Budlong Press, 5428 North Virginia Avenue, Chicago 25. 88 pages, patient's price, $1.50. Complimentary Physician's Desk copy available from the publisher.

DRUGS, THEIR NATURE, ACTION AND USE—Harry Beckman, M.D. Director, Departments of Pharmacology, Marquette University Schools of Medicine and Dentistry; Consulting Physician, Milwaukee County General Hospital and Columbia Hospital. By W. B. Saunders Co., Philadelphia and London, 1958. 728 pages, $15.00.

GENERAL DIAGNOSIS AND THERAPY OF SKIN DISEASES—Herman Werner Siemens, M.D. Professor of Skin and Venereal Diseases at the University of Leiden, Holland. Translated from the German Edition by Kurt Wiener, M. D. Dermatologist, Mt. Sinai Hospital and St. Michael Hospital, Milwaukee, Wis. The University of Chicago Press, 5750 Ellis Avenue, Chicago 37, Ill. 324 pages, $10.00.

GYNECOLOGIC AND OBSTETRIC PATHOLOGY—With Clinical and Endocrine Relations—Emil Novak, A.B., M.D.D.Sc. (Hon. Trinity College, Dublin: Tulane), F.A.C.S., F.R.C.O.G. (Hon), Late Asst. Prof. Emeritus of Gynecology, The Johns Hopkins Medical School; Gynecologist, Bon Secours and St. Agnews Hospitals, Baltimore; Fellow and Past President, American Gynecological Society, and Edmund R. Novak, A.B., M.D. Asst. Prof. of Gynecology, The Johns Hopkins Medical School; Gynecologist, Johns Hopkins, Bon Secours, Hospital for the Women of Maryland, and Union Memorial Hospitals, Baltimore, Md. Pub. W. B. Saunders Co., Philadelphia and London, 1958. Fourth Edition—650 pages, $14.00.

(Continued on Page 92)

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Animals Good Risk As Pets for Children

The joy that children receive from pets, particularly dogs and cats, far outweighs the danger incurred from bites and disease that the animals may inflict on them.

This was revealed in an article by Dr. Hugh A. Carithers, of Jacksonville, Florida, which appeared in the February issue of the *Journal of Diseases of Children*, published by the American Medical Association.

The report noted no serious or lasting effects to 157 children who had been bitten by one of 10 species of animals during the 20-month study.

The majority of children bitten were between the ages of 2 and 10 years. "This is during the time when parental protection wanes and the adventurous spirit takes over," said Dr. Carithers. He added, "After the 10th year a child has attained considerable discretion in handling animals."

A boy's natural aggressiveness toward animals was illustrated by the fact that males held a 3 to 2 ratio over females in the number of bites.

Seasonal factors seem to have little or no importance as to when an animal might attack. No less than 4 nor more than 15 cases were recorded in any one month.

Of the various animal bites examined during the survey, the dog was the most frequent offender. "To his credit, however, it should be pointed out that the child was usually at fault," Dr. Carithers said.

Why do dogs bite children? Observations seem to indicate the following reasons are most common: in self-defense; unintentionally during play; and in protection of their property.

In addition to the dog, other animals involved in the study were the cat, rabbit, squirrel, horse, rat, hamster, monkey, skunk, and raccoon.

Dr. Carithers feels that the emotional and educational value of pets far outweighs the danger of bites and disease to which children are subjected. He offers the following suggestions to help prevent accidental biting:

"Children should not own pets until they can care for them and show discretion in their handling. Such ability is rare under the age of 4 years and unusual under the age of 6 years.

"Usually, older animals are to be preferred to immature ones as pets for young children.

"Children should be taught that animals have rights, including an existence free of pain and excessive teasing."

He also suggested that children be taught to avoid all strange animals, especially sick or injured ones.

When small, children should be taught not to trespass, and, as older children, when riding bicycles, they should deliberately avoid routes where dogs are known to chase vehicles.

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Inquiries invited from individuals and groups in the medical profession

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Books Received

(Continued from Page 82)

HOW TO EAT WELL AND LIVE LONGER—A Guide for the Natural Use of Foods—Leon Patrick, M.D. An Exposition-Banner Book, New York Exposition Press, Inc., 386 Fourth Avenue, New York 16, N. Y., 1958. 121 pages, $2.75.

HUMAN EAR CANAL, THE—Eldon T. Perry, M.D. Instructor in Dermatology, Wayne University. Published simultaneously in the British Commonwealth of Nations by Blackwell Scientific Publications, Ltd., Oxford, England. Published simultaneously in Canada by The Ryerson Press, Toronto and Charles C. Thomas, Publisher, Bannerstone House, 301-327 East Lawrence Avenue, Springfield, Ill. 116 pages, $4.75.

MANAGEMENT OF THE HANDICAPPED CHILD—H. Michal-Smith, Ph.D., Editor. Chief Clinical Psychologist, Flower and Fifth Avenue Hospitals; Asst. Prof. of Pediatrics, New York Medical College, Metropolitan Medical Center. Grune & Stratton, Inc., 381 Fourth Ave., New York 16, N. Y., 1957. 276 pages, $6.50.

NEUROSES AND THEIR TREATMENT, THE—Edward Podosky in collaboration with Siegfried Fischer, Montague Ullman, Frank C. Metzger, Max M. Stern, Henry H. Brewster, Paul Chodoff, L. J. Meduna. Edward Podosky, M.D.F.A.P.A., F.A.P.M. Dept. of Psychiatry, Kings County Hospital, Brooklyn, N. Y.; Psychiatrist, Boro Medical School, Brooklyn, New York. Philosophical Library Inc., 15 East 40th Street, New York. 1500 pages, $15.00.

OFFICE GASTROENTEROLOGY—Albert F. R. Andresen, M.D. Clinical Professor Emeritus of Medicine, State University of New York College of Medicine at New York City; Attending Physician, Long Island College Hospital; Area Consultant in Gastroenterology, Veterans Administration. W. B. Saunders Co., Philadelphia, London, 1958. 707 pages, $14.00.

PHYSICAL METHODS IN PHYSIOLOGY—W. T. Catton, M.Sc. Physiology Department, Kings College, Newcastle-upon-Tyne. Philosophical Library, Inc., 15 East 40th St., New York City 16, N. Y., 1957. 375 pages, $10.00.

PHYSICIAN'S FEDERAL INCOME TAX GUIDE—Hugh J. Campbell and James B. Liberman. Edited by Henry D. Shereff. 1958 Edition. 94 pages, $2.50.

PRE-EMPLOYMENT DISABILITY EVALUATION—William A. Kellogg, M.D., F.A.C.S., formerly associated with the Medical Dept., Douglas Aircraft Co., Inc., Long Beach, California Division; Clinical Professor of Surgery, New York Polyclinic Postgraduate Medical School; Assistant Attending Surgeon, Bellevue, Broad St., Gouveneur, and Polyclinic Hospitals, New York, N. Y. Preface by H. L. Herschensohn, M.D. Published Nov. 25, 1957, by Charles C. Thomas, 301-327 E. Lawrence Ave., Springfield, Ill., U.S.A. 155 pages, $10.50.

RELATION OF PSYCHIATRY TO PHARMACOLOGY, THE—Abraham Wikler, M.D. National Institute of Mental Health, Addiction Research Center, Dept. of Health, Education and Welfare, Public Health Service Hospital, Lexington, Kentucky. Published for the American Society for Pharmacology and Experimental Therapeutics by Williams & Wilkins Co., Baltimore 2, Md., 1957. 322 pages, $4.00.

REPORT OF THE SCIENTIFIC DIRECTOR—1957—Clarence Cook Little, Sc.D., Chairman, Scientific Advisory Board, Tobacco Industry Research Committee, 150 East 42nd Street, New York 17, N. Y. 49 pages.

TEXTBOOK OF CLINICAL NEUROLOGY, A—Israel S. Wechsler, M.D. Consulting Neurologist, The Sinai Hospital, New York. Eighth Edition. W. B. Saunders Company, Philadelphia and London, 1958. 782 pages, $11.00.

TEXTBOOK OF GYNECOLOGY—Second Edition—John I. Brewer, B.S., M.D., Ph.D. Professor of Obstetrics and Gynecology, Northwestern University Medical School, Chief of Gynecology and Obstetrics, Passavant Memorial Hospital, Chicago, Ill. The Williams and Wilkins Co., Mount Royal and Guilford Avenues, Baltimore 2, Maryland, 1958. Second Edition. 742 pages, $15.00

American Medical Association Pamphlet Tells Driver Fitness Rules

Even though a person has a good safety record and thinks he's in excellent health, there are certain circumstances under which he shouldn't drive.

Some of the things that can make a driver dangerous are listed in a new American Medical Association pamphlet, "Are You Fit To Drive?"

The pamphlet, to be distributed through physicians' offices, was prepared by the AMA Committee on Medical Aspects of Automobile Injuries and Deaths, in cooperation with the Center for Safety Education, New York University.

A physician can help answer the question of driving fitness. The pamphlet urges drivers to ask their physicians when they are in doubt about their fitness.

Some of the things that make a driver dangerous are:

—Emotional upsets. Unless a person can keep his mind on the wheel and not on his worries, he should not take the wheel.

—The driver's attitude. Some drivers feel the other fellow is always wrong. Some are aggressive and intolerant when they get into a car. They need to be mature.

—Sleepiness. A sleepy driver is as much a hazard as a drinking one. Dozing is not restricted to night driving. When making long trips, a person should rest every two hours, drinking coffee or cola to stay alert. He should not take any medicine that makes him drowsy.

—Medicines. Antihistamines, cold tablets, sedatives, tranquilizers, and some other drugs may dull reflexes or impair coordination. Stimulants may make a person nervous. The physician should be consulted about the side effects of any drugs.

—Faulty vision. A driver needs regular eye examinations; if he notices any change in his eyes between examinations, he should see his physician immediately. To reduce eye strain, he should wear properly fitted sunglasses, but not after dark. To avoid tiring the eyes, excessive night driving should be avoided if possible. Hay fever or the common cold can blur the vision dangerously.

—Certain nerve and heart disorders. Some may cause convulsions and others may result in occasional loss of consciousness. The physician is the best judge of whether a patient with these disorders should drive.

—Diabetes. Insulin reactions may cause difficulties, but diabetic patients who follow their physician's advice can be safe drivers.

—Old age. After 65, reflexes and coordination tend to be a little slower, people tire more easily, resistance to glare is lessened, and the ability to see at night is declining. Older drivers should schedule their trips at non-rush hours and should not spend long periods at the wheel.

—And of course, drinking.

American Medical Association Drafts New Guide to Define Forms of Disability

The American Medical Association has announced publication of an important new document: A guide for physicians' use in medically rating persons under disability programs.

This guide to the evaluation of permanent impairment of the extremities and back is considered so important to physicians and administrators of many organizations vitally interested in disability that it was published as a separate 117-page edition (February 15) of the *Journal of the American Medical Association.*

Editor Austin Smith, M.D., said that it marks the first time that the American Medical Association Journal has ever devoted a special edition to a specific subject.

CLEARS UP MISUNDERSTANDING

From a medical standpoint, the guide is important because evaluation or rating of permanent disability has long been recognized as a complex subject. In the past much confusion has resulted from inadequate understanding by physicians and others of:

1. The scope of *medical* responsibility in evaluation of permanent disability, and 2. The difference between "permanent disability" and "permanent impairment."

The preface of the guide states: "It is vitally important for every physician to be aware of his proper role in the evaluation of permanent disability under any private or public program for the disabled. It is equally important for him to have the necessary authoritative material to assist him in competently fulfilling his particular responsibility—the evaluation of permanent impairment."

The guide is the work of the Committee on Medical Rating of Physical Impairment, which was appointed by the A.M.A. Board of Trustees in September 1956. This is actually the first of a series of guides which the A.M.A. committee hopes to develop with the assistance of outstanding consultants.

MEMBERS OF COMMITTEE

Members of the physical impairment committee are:

Drs. Raymond M. McKeown, Coos Bay, Oregon, chairman and a member of the A.M.A. Board of Trustees; George F. Gsell, Wichita, Kansas; Henry H. Kessler, Newark, New Jersey; Quentin W. Mack, Boise, Idaho; James R. McVay, Kansas City; and O. A. Sander, Milwaukee, Wisconsin; Mr. George

(Continued on Page 111)

C.M.A. Annual Session

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You do not need to be a member of AAPS. We desire for you to share our program which annually is one of the most outstanding presented on the socioeconomic aspects of medical practice. There is *no registration fee*—only a charge for the President's Luncheon on Thursday noon and the Banquet on Friday evening.

We believe that you will be entertained and informed by these speakers: *General Bonner Fellers* (U.S.A. Retd.), Director of For America (Washington, D.C.) and former Chief of the GHQ Planning Section under General MacArthur in the Pacific; *Willis Stone* (Los Angeles), President, American Progress Foundation; *Dr. Louis M. Orr* (Orlando, Fla.), Vice Speaker of the AMA House of Delegates; *Ben H. Read* (Los Angeles), Executive Secretary, Public Health League of California; *Dr. Cyrus W. Anderson* (Denver, Colorado), President of AAPS; *Dr. Charles W. Pavey* (Columbus, Ohio), Immediate Past President of AAPS; *Dr. James L. Doenges* (Anderson, Indiana), a Past President of AAPS; *Dr. George J. Hess* (Bunker Hill, Illinois), Speaker, AAPS House of Delegates; *Dr. Lewis A. Alesen* (Los Angeles), a Past President of the California Medical Association; *Dr. Denton Kerr* (Houston, Texas), President, Texas Medical Association; *Harry E. Northam* (Chicago), AAPS Executive Secretary, and others.

AAPS devotes its entire activities to representing the nation's physicians in medical economics, public relations, legislation and freedom. Attend the sessions and enjoy the program with us. You'll find it a rewarding experience. We are confident that you will be impressed and that you will find the principles and objectives of the Association to be deserving of your approval and support.

BERTHEL H. HENNING, M.D., *Chairman*
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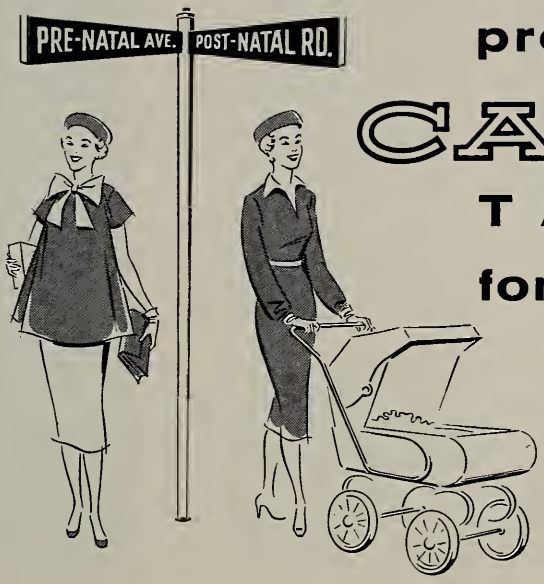
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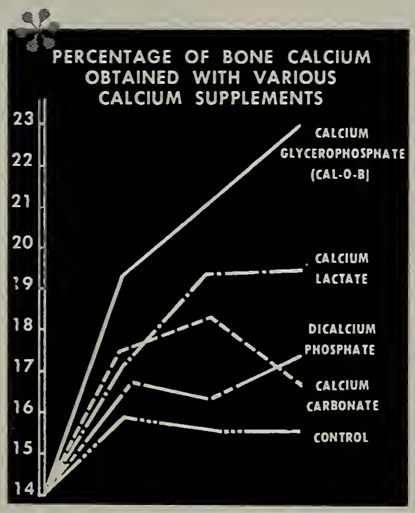

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It allows for long-time medical treatment for millions of casualties in addition to providing medical care for the normal number of sick among the survivors of any enemy attack. Such care would be provided for a period as long as one year, as contrasted to previous planning which called for a period of only about three weeks.

The new program was developed by a ten-member medical task force committee which drew up a system of emergency medical care, as follows:

1. Emergency Treatment Stations: These would be concerned with first aid and emergency surgery limited to arresting major hemorrhages, dressing wounds, splinting fractures and performing similar life-saving techniques. Casualties awaiting transportation to the rear would be kept here on a short-term "holding" basis. When possible, equipment and personnel from these units would also be sent forward to collect casualties and render field first aid.

2. Civil Defense Emergency Hospitals: Complete with X-ray and operating room equipment, portable generators, 200 cots and medical supplies; emergency hospitals are stored in strategically-located sites around the nation. In an emergency, the hospitals would be set up in outlying schools, churches, and other buildings to provide working facilities for doctors and nurses successfully evacuated from the 1,900 general hospitals in the nation's critical target areas in conjunction with professional personnel and facilities in the support areas.

—*Civil Defense Review*

C.M.A. Annual Session

QUALIFICATIONS/REQUIREMENTS FOR REGISTRATION

(a) All M.D.'s with credentials showing that they hold valid license to practice medicine. (Membership card in C.M.A.; county medical society/association or A.M.A. membership card.)

(b) Medical students will be admitted upon presentation of credentials from their medical schools identifying them as medical students. (A membership card of the Student American Medical Association or letter from their dean's office.)

(c) Medical secretaries will be admitted upon presentation of a letter from the physician-employer.

(d) Pharmacist mates and other military personnel of a like grade will be admitted upon presentation of a letter requesting their admittance, written by their commanding officer.

(e) Dentists (D.D.S.), doctors of veterinary medicine (D.V.M.), registered nurses (R.N.), student nurses, x-ray technicians, laboratory technicians, dietitians, allied public health personnel, and others will be admitted provided they have proper identification.

(f) *All questions on admission will be passed upon by a member of the Committee on Registration who will be present at the desk.*

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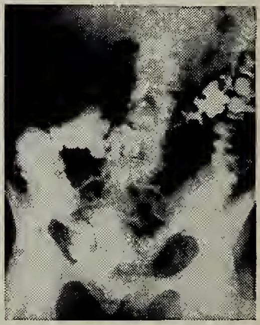
when anxiety and tension "erupts" in the G. I. tract...

in spastic and irritable colon



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The new form and formulation of Buffered Pabirin provides high and sustained salicylate blood levels. It may be administered over long periods of time without the nausea, dyspepsia or other gastrointestinal symptoms so frequently experienced with salicylates alone.

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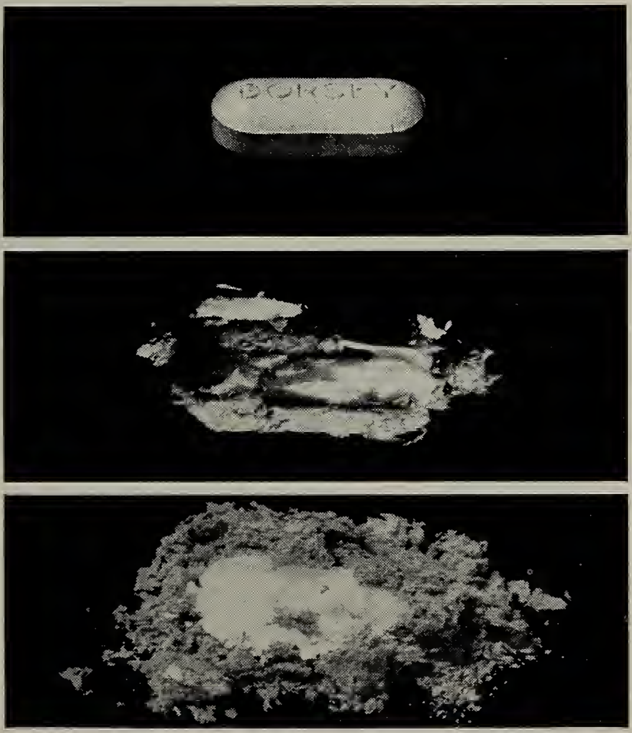

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Each tablet contains:

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Ascorbic acid	50 mg.
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All Buffered Pabirin is sodium and potassium free

Dosage: Two or three tablets 3—4 times daily.

References: 1. Report of Joint Committee, Medical Research Council & Nuffield Foundation, Treatment of Rheumatoid Arthritis, British Medical Journal (May 29) 1223-1227, 1954. 2. ibid. (April 13) 847-850, 1957. 3. Hart, D.; Bagnall, A. W.; Bunim, J. J., and Polley, F. H.: Ninth International Congress on Rheumatic Diseases, Toronto, Ont. (June 25) 1957. 4. Lewis, L., *et al.*: Ann. Int. Med. *39*:116, 1953. 5. Demartini, F., *et al.*: J.A.M.A. *158*:1505, 1955. 6. Segaloff, A.: Ann. Allergy *12*:565, 1954. 7. Kern, R. A.: Am. J. M. Sc. *233*:430, 1957.

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American Medical Association Drafts New Guide to Define Forms of Disability

(Continued from Page 111)

competent to perform. Evaluation of permanent impairment defines the scope of medical responsibility and therefore represents the physician's role in the evaluation of permanent disability. Evaluation of permanent impairment is an appraisal of the nature and extent of the patient's illness or injury as it affects his personal efficiency in the activities of daily living. These activities are self care, normal living postures, ambulation, elevation, traveling, and nonspecialized hand activities. It is not and never can be the duty of physicians to evaluate the social and economic effects of permanent impairment. These effects must be evaluated by administrators in making determinations of permanent disability.

"Competent evaluation of permanent impairment requires adequate and complete medical examination, accurate objective measurement of function, and avoidance of subjective impressions and nonmedical factors such as the patient's age, sex, or employability.

"The Committee on Medical Rating of Physical Impairment believes that permanent impairment cannot vary because of the circumstances of its occurrence or the geographic location of the patient at the time. Furthermore, unlike disability, permanent impairment can be measured with a reasonable degree of accuracy and uniformity on the basis of impaired function as evidenced by loss of structural integrity, pathology, or pain substantiated by clinical findings."

A member of the committee, Dr. Kessler, of the Kessler Institute of Rehabilitation at West Orange, New Jersey, and a founding member of the A.M.A. Council on Industrial Health, said "the new guide is simple and practical in application."

"It is designed to eliminate controversy and conflict," he said, "and provides justice and equity to the injured or disabled person in search of the security and financial benefit to which he is entitled."

In 1952 Dr. Kessler received an award from the President's Committee on the Employment of the Physically Handicapped.

One of the consultants, Dr. Krusen of the Mayo Clinic, praised the guide and the work of the committee.

"Physicians have long needed such an established guide for evaluation of physical impairments in conjunction with private and public programs for the disabled," he said, adding: "The committee has made a splendid contribution which will be of great benefit to all disabled persons throughout the United States."

Dr. Krusen, who has been professor of physical medicine and rehabilitation at the University of Minnesota since 1941, also received the 1953 Physician's award from President Eisenhower for his services to the physically handicapped.

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Automation Contributing To Obesity Problem

Automation may have its advantages but it is causing a major problem in the field of medicine.

More and more people are tending to become overweight as a result of our new sedentary life which provides more leisure time with less heavy physical work, according to Dr. Robert H. Barnes, of Seattle.

Writing in the February 22 issue of the *Journal of the American Medical Association,* the University of Washington School of Medicine physician said, "Reduction and permanent weight control require healthy changes in living habits."

In addition to physical examinations and general health evaluation, a physician today must also concern himself with the patient's personal living habits if he is to recommend an effective reducing program.

"Usual eating habits and average daily physical activity are two of the most important points to be explored," said Dr. Barnes. He added, "There is no single approach to the treatment of obesity, only lifetime control."

A special weight history should be the first step in determining a program to bring long-term results. This history will give an index of past and present weight, maximum weight, and estimated ideal weight.

The second step is to modify the way of eating, which must be designed to be followed during the patient's lifetime. This approach is more satisfactory on the long-range basis than the conventional rigid diet, Dr. Barnes said.

Lowering the caloric intake is necessary for anyone to reduce. Despite the fact that dieting alone has been a failure, it is still the principle support in reducing, he said.

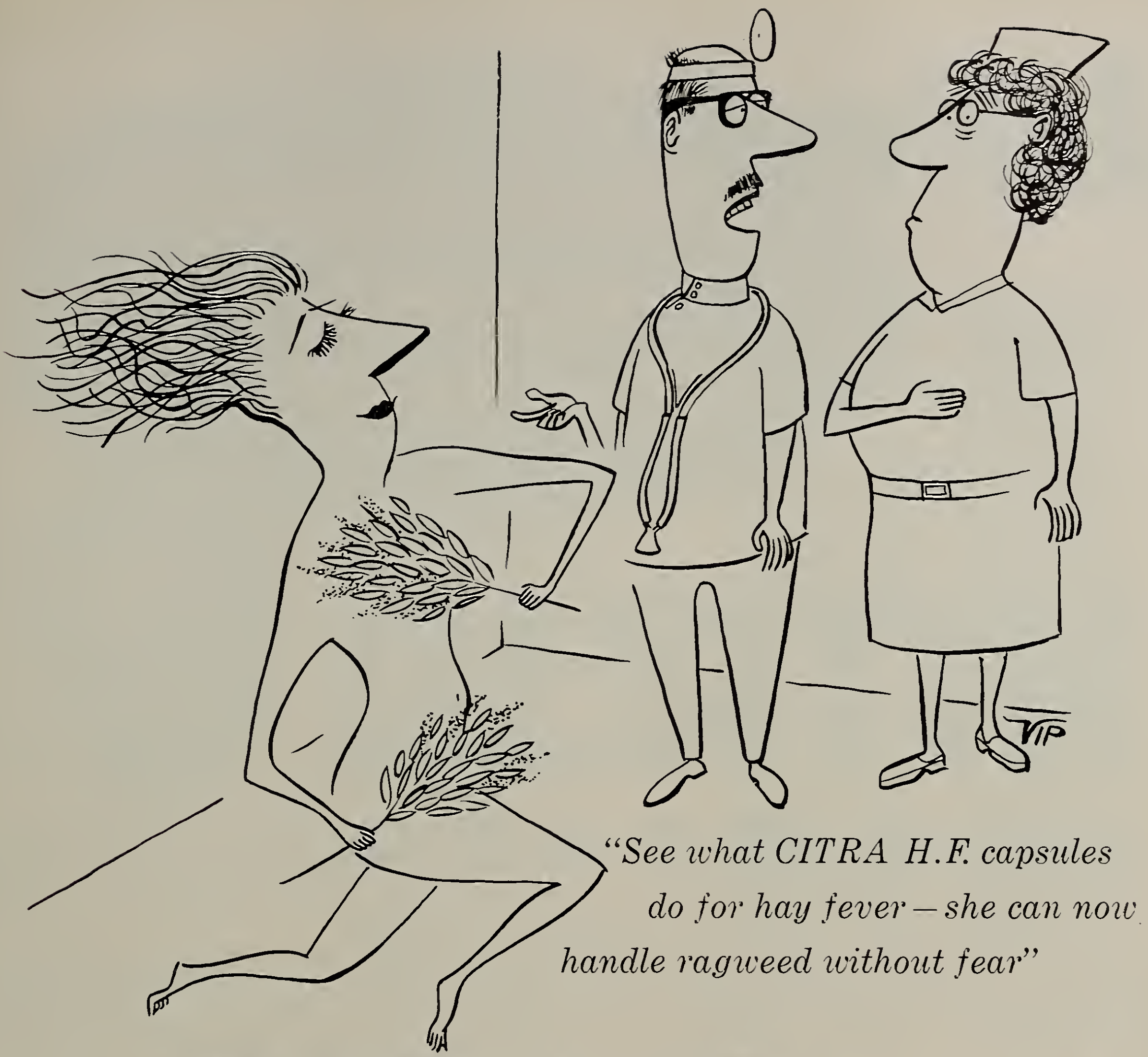
In setting up a diet, the patient's working facilities, meal hours, family food patterns, and income level must all be considered.

Additional steps in the program should include the use of medication (dispensed under a physician's supervision), exercise, and posture control.

He noted, "Moderate exercise, month in and month out, can be the difference between following a starvation regimen and being able to follow a more normal diet according to one's appetite.

"Here again modern civilization makes it difficult for the overweight patient to do regular exercising such as walking. The habit of riding everywhere, even three blocks to the store, has depressed the physical activity of many to a very low state."

There should also be developed a close relationship between physician and patient, for, according to Dr. Barnes, "The patient should realize that he is under the care of a physician not only to lose weight but also to have treated the associated medical disorders common to obesity which commercial reducing salons are admittedly incapable of recognizing and treating."



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Drug Reduces Need for Electroshock

A new drug combination has shown promise in the treatment of depression, according to a Boston psychiatrist.

The drug combination made unnecessary the use of electroshock treatment in more than half of the patients to whom it was given in a recent study. Electroshock has been the treatment most frequently employed in depression.

Writing in the March 1 issue of the *Journal of the American Medical Association,* Dr. Leo Alexander of the Boston State Hospital division of psychiatric research reported the "complete and/or social recovery" within an average of eight weeks in 21 (57 per cent) of 35 patients with neurotic or psychotic depressions.

The new combination is meprobamate (Miltown) and benactyzine hydrochloride (Deprol).

Dr. Alexander described the recovery rate, even though the study was a small one, as "highly promising," definitely above the spontaneous recovery rate expected during the first year of illness, and only slightly below that obtained with electroshock.

Even among those patients who did not recover while taking the drug, the alleviation of symptoms was marked, he said. The few side effects that occurred were "minimal and easily controlled."

Depression was defined by Dr. Alexander as "a state of sadness with self-reproaches and psychomotor inhibition, with sleep disturbance . . . and disturbance of appetite."

To be effective against depression a drug must reduce excitability without too much depressive action, and at the same time strengthen a person's "ego boundaries" by "reducing psychic pain, fear, and resultant avoidance responses engendered by stress." While no single drug fulfills both requirements, meprobamate fulfills the first and benactyzine hydrochloride the second.

Dr. Alexander's study was carried out in 35 patients who suffered from depression sufficiently severe to warrant consideration of physical treatment methods. All were treated at home for periods of two weeks to six months.

Twenty recovered within one to 25 weeks, the average being eight weeks. Twenty-six of the patients had psychotic depressions of the manic-depressive or involutional type, while nine had neurotic depressions. The recovery rate was identical for the two groups: 15 of the psychotics recovered, while five of the neurotics recovered.

In the 20 patients responding favorably to the drugs, the early effect was a marked reduction of tension and depressive pondering, as well as a striking reduction in hostility toward the self and of suicidal trends. Resumption of the normal sleep pattern was also one of the striking early effects, he said.

Dr. Alexander concluded that further work with this drug combination is "desirable and promising."

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Nail Polish Withdrawn as Dangerous

After several hundred complaints had been received from women who said the product injured their nails, the producers and Food and Drug Administration are cooperating to remove Ten Day Press-On Nail Polish from the market. Purchasers are asked to return the product, and dealers are sending back unsold stocks to the manufacturer. Women who have applied the plastic coverings shaped like nails are advised to remove the material with "extreme care" to avoid peeling, splitting, and breaking off of the nails. About 32,000,000 applications have been distributed since first sales six months ago, and many millions of these still are in the hands of consumers. FDA says characteristic injuries usually appear two to four weeks after the "nails" are applied. Some injuries are slight, but there are many severe cases where the nails broke off to the quick. There is no indication of permanent injury or disfigurement.

—*A.M.A. Washington Letter*

C.M.A. Annual Session

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BOOKS RECEIVED

Books received by CALIFORNIA MEDICINE *are acknowledged in this column. Selections will be made for more extensive review in the interests of readers as space permits.*

A.M.A. SCIENTIFIC EXHIBITS—1957—Sponsored by the Council on Scientific Assembly, American Medical Association, Grune and Stratton, New York, 1957. 480 pages, $15.00.

CURRENT THERAPY—Howard F. Conn, M.D. (Latest Approved Methods of Treatment for the Practicing Physician), 1958. W. B. Saunders Co., Philadelphia and London. 827 pages, $12.00.

DIABETES AS A WAY OF LIFE—T. S. Danowsky, M.D., Renziehausen Professor of Research Medicine, University of Pittsburgh School of Medicine; Senior Staff Physician at Presbyterian-Woman's, Children's, Elizabeth Steel Magee, and Shadyside Hospitals of Pittsburgh; Consultant in Metabolism, Oakland Veteran's Administration Hospital, Pittsburgh. Coward-McCann, Inc., New York. 177 pages, $3.50.

ESSENCE OF SURGERY, THE—C. Stuart Welch, M.S., M.D., Ph.D. Professor of Surgery, Albany Medical College of Union University, and Samuel R. Powers, Jr., A.B., M.D., M.Sc.D., Professor of Experimental Surgery, Albany Medical College of Union University. W. B. Saunders Co., Philadelphia and London, 1958. 320 pages, $7.00.

FUNCTIONAL ORGANIZATION OF THE DIENCEPHALON, THE—W. R. Hess, M.D., Professor of Physiology, Emeritus, University of Zurich, Zurich, Switzerland. Edited by John R. Hughes, M.A. Grune & Stratton, New York and London, 1957. 180 pages, $7.00.

GENERAL PATHOLOGY—Second Edition—Sir Howard Florey, Professor of Pathology. W. B. Saunders Co., Philadelphia and London, 1958. 932 pages, $16.00.

HANDBOOK OF DISEASES OF CHILDREN, A—Including Dietetics and the Common Fevers—Bruce Williamson, M.D. Edin., F.R.C.P. London. Physician, Children's Department, Royal Northern Hospital, London; Physician, Children's Hospital, Northaw; Physician, Prince of Wales General Hospital, London; Physician, Barnet General Hospital; Physician, Enfield War Memorial Hospital; Lecturer, North London Postgraduate Institute. Eighth Edition. E. and S. Livingstone, Ltd., Edinburgh and London, 1957. Williams & Wilkins Co., Mt. Royal and Guilford Ave., Baltimore, Md. 483 pages, $6.00.

HEMATOLOGY FOR MEDICAL TECHNOLOGISTS—Second Edition—Charles E. Seiverd, Chief Technologist, Doctors Clinical Laboratory, Director of Research, The Horizon Laboratories, Glendale, Arizona. Lea & Febiger, Philadelphia, 1958. 275 pages, $5.75.

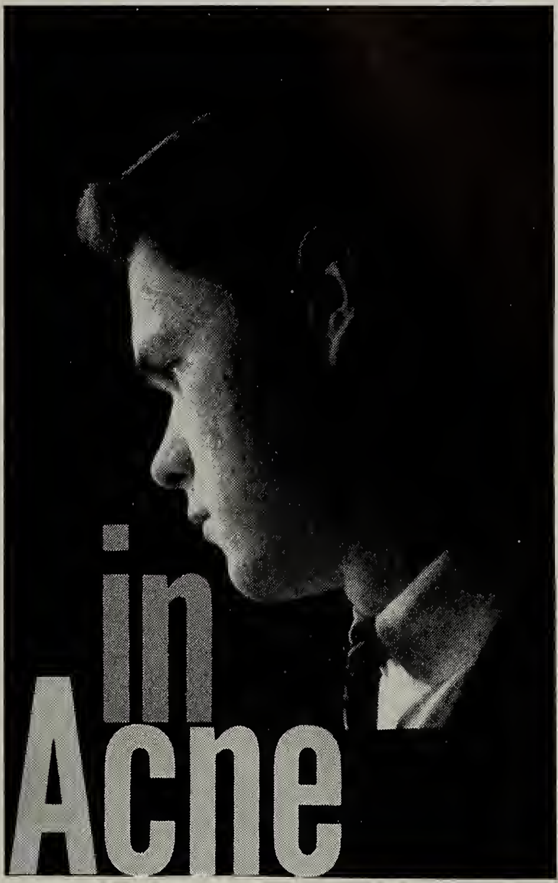
HOW TO WRITE SCIENTIFIC AND TECHNICAL PAPERS—Sam F. Trelease—Columbia University, The Williams and Wilkins Company, Baltimore, 1958. 185 pages, $3.25.

MEDICAL JURISPRUDENCE AND TOXICOLOGY—John Glaister, J.P., D.Sc., M.D., F.R.S.E., F.R.F.P.S. (Glasg.), of the Inner Temple, Barrister-at-Law. Regius Professor of Forensic Medicine, University of Glasgow; President of the Association in Forensic Medicine in collaboration with Edgar Rentoul, M.B.E., M.A., LL.B., Ch.B. Lecturer in Forensic Medicine, University of Glasgow. Tenth Edition. The Williams & Wilkins Co., Baltimore, Md. 720 pages, $10.00.

MEDICAL WORLD OF THE EIGHTEENTH CENTURY, THE—Lester S. King, M.D., University of Chicago Press, Chicago 37, Illinois, 1958. 346 pages, $5.75.

NOISE AND YOUR EAR—Aram Glorig, Jr., M.D. Director of Research, Research Center of the Subcommittee on Noise in Industry, Committee on Conservation of Hear-

(Continued on Page 32)



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1. Hodges, F. T.: *GP* 14:86, Nov., 1956.

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1. Russek, H. I.: Postgrad. Med. *19*:562 (June) 1956.

Dosage and Supplied: Begin with 1 to 2 yellow CARTRAX "10" tablets (10 mg. PETN plus 10 mg. ATARAX) 3 to 4 times daily. When indicated this may be increased by switching to pink CARTRAX "20" tablets (20 mg. PETN plus 10 mg. ATARAX.) For convenience, write "CARTRAX 10" or "CARTRAX 20." In bottles of 100.

CARTRAX should be taken 30 to 60 minutes *before* meals, on a continuous dosage schedule. Use PETN preparations with caution in glaucoma.

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Study Shows Tranquilizer Is Non-Habit Forming

No habituation to the tranquilizer meprobamate developed among 60 state prison inmates given the drug during a recent study.

The results were contrary to expectations, according to an article by Dr. Austin R. Stough, McAlester, Oklahoma, in the February 22 issue of the *Journal of the American Medical Association.*

"Because meprobamate (Miltown, Equanil) is widely used, it was considered desirable to evaluate the possibility of habituation among a prison population, in which a high incidence of susceptibility might normally be expected," Dr. Stough said.

The Oklahoma state prison inmates given the drug were considered to be highly unstable, with a history of injury, illness, or other physical or psychological abnormality. Several had once been addicted to narcotics or alcohol. Yet during the study none developed a "true habituation" in which they became physically or psychologically dependent on the drug.

In the current Oklahoma study the drug was given in two separate six-week tests. The first called for meprobamate to be administered in dosages far in

(Continued on Page 36)

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STARTING DATES—SPRING AND SUMMER, 1958

SURGERY—Surgical Technic, Two Weeks, May 12, June 16
  Surgery of Colon and Rectum, One Week, May 5, June 2
  Basic Principles in General Surgery, Two Weeks, July 7
  Gallbladder Surgery, Three Days, June 2
  Surgery of Hernia, Three Days, June 5
  General Surgery, Two Weeks, May 5; One Week, May 12
  Breast & Thyroid Surgery, One Week, May 5
  Fractures & Traumatic Surgery, One Week, June 9
  American Board Review Course, Two Weeks, Fall of 1958

GYNECOLOGY & OBSTETRICS:
  Office & Operative Gynecology, Two Weeks, June 2
  Vaginal Approach to Pelvic Surgery, One Week, July 14
  General & Surgical Obstetrics, Two Weeks, June 16

MEDICINE—General Review Course, Two Weeks, May 12
  Electrocardiography, One Week Advanced Course, June 16
  Hematology, One Week, June 2
  American Board Review Course, One Week, September 29

PEDIATRICS—Two-Week Intensive Course, April 21
  Neuromuscular Diseases; Cerebral Palsy, Two Weeks, July 7

DERMATOLOGY—Clinical & Didactic Course, Two Weeks, May 5

RADIOLOGY—Diagnostic X-Ray, Two Weeks, June 9
  Clinical Uses of Radioisotopes, Two Weeks, May 5

CYSTOSCOPY—Ten-Day Practical Course, by appointment

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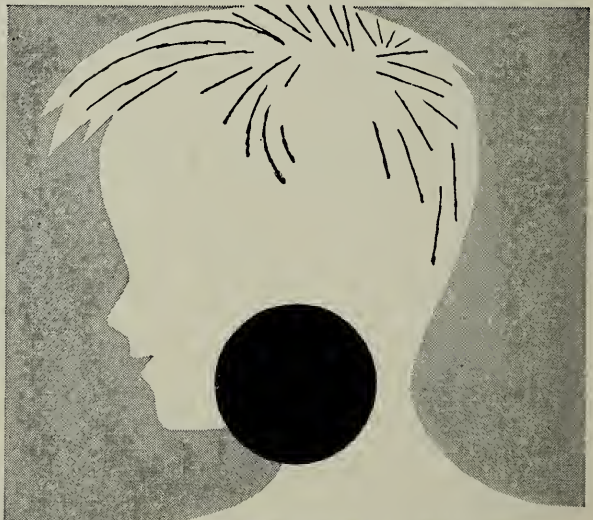

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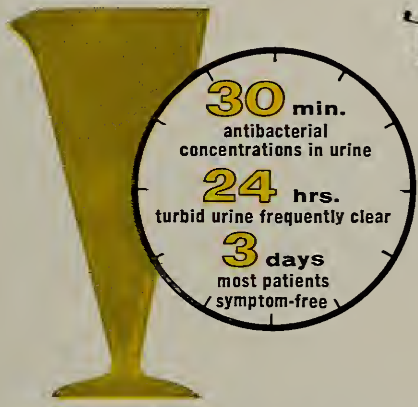
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AVERAGE DOSAGE: *ADULTS*—four 100 mg. tablets daily; 1 tablet during each meal and 1 on retiring, with food or milk. In acute, uncomplicated infections, 50 mg. q.i.d. may be prescribed. If patient is unresponsive after 2 to 3 days, increase dose to 100 mg. q.i.d.

CHILDREN—5 to 7 mg. per Kg. (2.2 to 3.1 mg. per lb.) per 24 hours.

SUPPLIED: Tablets, 50 and 100 mg. Oral Suspension (25 mg. per 5 cc. tsp.).

*Stewart, B. L., and Rowe, H. J.: J. Am. M. Ass. **160**:1221, 1956.

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(Continued in Back Advertising Section, Page 68)

BOOKS RECEIVED

(Continued from Page 23)

ing of the American Academy of Ophthalmology and Otolaryngology, Los Angeles, California. Modern Monographs in Industrial Medicine, Editor in Chief, A. J. Lanza, M.D. Grune & Stratton, New York and London, 1958. 152 pages, $6.50.

NEURITIS, SENSORY NEURITIS, NEURALGIA—Robert Wartenberg, M.D., Clinical Professor of Neurology, University of California Medical School. Oxford University Press, 114 5th Ave., New York, N. Y., 1958. 444 pages, $8.50.

PHARMACOLOGY AND THERAPEUTICS—A Textbook for Students and Practitioners of Medicine and Its Allied Professions—Third Edition—Arthur Grollman, Ph.D., M.D., F.A.C.P.—Lecturer in Pharmacology and Toxicology, The Medical Branch, and Professor and Chairman of the Department of Experimental Medicine, The Southwestern Medical School, The University of Texas, Attending Physician, Parkland Memorial Hospital; Consultant in Internal Medicine, Baylor University Hospital; Consultant, Veterans Administration Hospital, Dallas, Texas; Civilian Consultant, The Surgeon General U. S. Air Force. Third Edition. Lea and Febiger, Washington Square, Philadelphia, Pa., 1958. 1034 pages, $12.50.

PRACTICAL PEDIATRICS—R. Cannon Eley, M.D., Assistant Clinical Professor of Pediatrics, Harvard University, Cambridge Mass., Chief Pediatric Service, Mt. Auburn Hospital, Cambridge, Mass.; Senior Consultant Pediatrics, U. S. Naval Hospital, Chelsea, Mass., and Benjamin Kramer, M.D., Director of Pediatric Services, Maimonides Hospital, Brooklyn, N. Y.; Clinical Professor of Pediatrics (Emeritus), University of State of New York Downstate Medical Center; Pediatric Consultant, The Jewish Hospital, Brooklyn, N. Y. Landsberger Medical Books, Inc., distributed by The Blakiston Division of the McGraw-Hill Book Co , New York. 309 pages, $7.00.

PREVENTIVE MEDICINE FOR THE DOCTOR IN HIS COMMUNITY—Second Edition—Hugh Rodman Leavell, M.D., Dr. P. H. Professor of Public Health Practice, Head of the Department of Public Health Practice, Harvard School of Public Health, and E. Gurney Clark, M.D., Dr. P. H. Professor of Epidemiology, Head of the Division of Epidemiology, School of Public Health and Administrative Medicine of the Faculty of Medicine, Columbia University. McGraw-Hill Book Co., Inc., New York, 1958. 689 pages, $10.00.

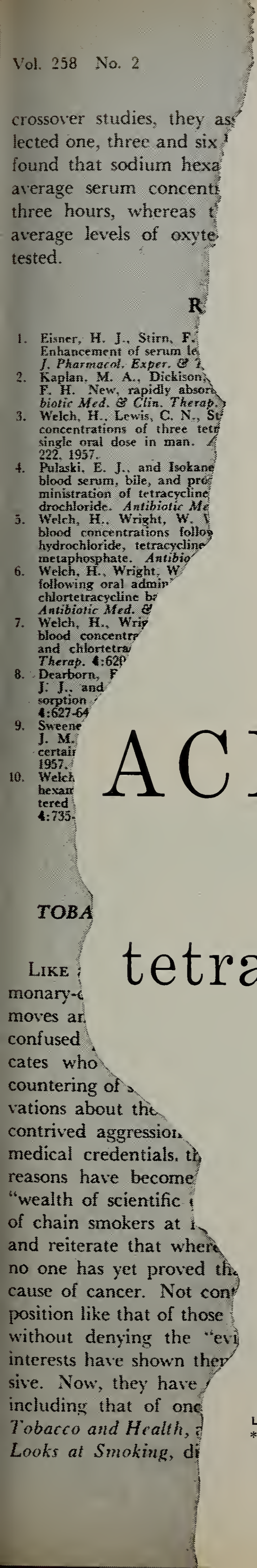
QUEST FOR IDENTITY, THE—Allen Wheelis, M.D. The decline of the superego and what is happening to American character as a result. W. W. Norton & Co., Inc., New York, 1958. 250 pages, $3.95.

SPINAL ANESTHESIA—John B. Dillon, B.S., M.S., M.D. Professor of Surgery and Chief of the Division of Anesthesia, Department of Surgery, University of California Medical Center, Los Angeles; Consultant Anesthesiologist to the Wadsworth General Hospital, Veterans Administration Center, Los Angeles, Huntington Memorial Hospital, Pasadena, St. Johns Hospital, Santa Monica, Cedars of Lebanon Hospital, Los Angeles, Los Angeles County Hospital, Los Angeles; formerly Associate Clinical Professor of Surgery (Anesthesia), University of California (Southern), and the College of Medical Evangelists, Los Angeles; Chief of Department of Anesthesia, Los Angeles County Hospital. Charles C. Thomas, Publisher, 301-327 E. Lawrence Ave., Springfield, Ill. 61 pages, $3.00.

STUDENT LIFE, THE (The Philosophy of Sir William Osler)—Richard E. Verney, M.B., F.R.C.P.E., D.R. Physician in Charge, Department of Student Health, University of Edinburgh, and Nurses Health Service, The Royal Infirmary of Edinburgh. E. & S. Livingstone Ltd., Edinburgh and London. The Williams & Wilkins Co., Mt. Royal and Guilford Aves., Baltimore 2, Md. 214 pages, $4.00.

TEXTBOOK OF VIROLOGY—For Students and Practitioners of Medicine—A. H. Rhodes, M.D., F.P.C.P. (Edin.), F.R.S.C. Director, School of Hygiene, University of Toronto; Professor of Microbiology, School of Hygiene, University of Toronto; and Virologist, The Hospital for Sick Children, Toronto, and C. E. Van Rooyen, M.D., D.Sc. (Edin.), M.R.C.P. (Lond.), F.R.C.P. Professor of

(Continued in Back Advertising Section, Page 86)



Vol. 258 No. 2

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2. Kaplan, M. A., Dickison,
F. H. New, rapidly absor
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3. Welch, H., Lewis, C. N., St
concentrations of three tetr
single oral dose in man.
222, 1957.
4. Pulaski, E. J., and Isokane
blood serum, bile, and pro
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5. Welch, H., Wright, W. V
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Tobacco and Health,
Looks at Smoking, d

Editorial.
The New England Journal of Medicine.
258:97-99, (January 9) 1958

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Study Shows Tranquilizer Is Non-Habit Forming

(Continued from Page 26)

excess of amounts needed to allay symptoms, followed by abrupt withdrawal.

During the second phase, the drug was given in dosages more commonly used followed by gradual withdrawal.

Results of both tests showed that the patients had returned to pretreatment status within 48 hours after withdrawal, including recurrence of previous psychosomatic symptoms from illness, Dr. Stough said.

It was noted that a small percentage of those undergoing the tests had an undesirable reaction to abrupt withdrawal. This was particularly apparent in persons with serious nervous disorders.

Dr. Stough concluded that gradual withdrawal of any tranquilizer is recommended. Thus, return of pretreatment symptoms, if it occurs, will be gradual, and the patient will adjust with less difficulty.

C.M.A. Annual Session

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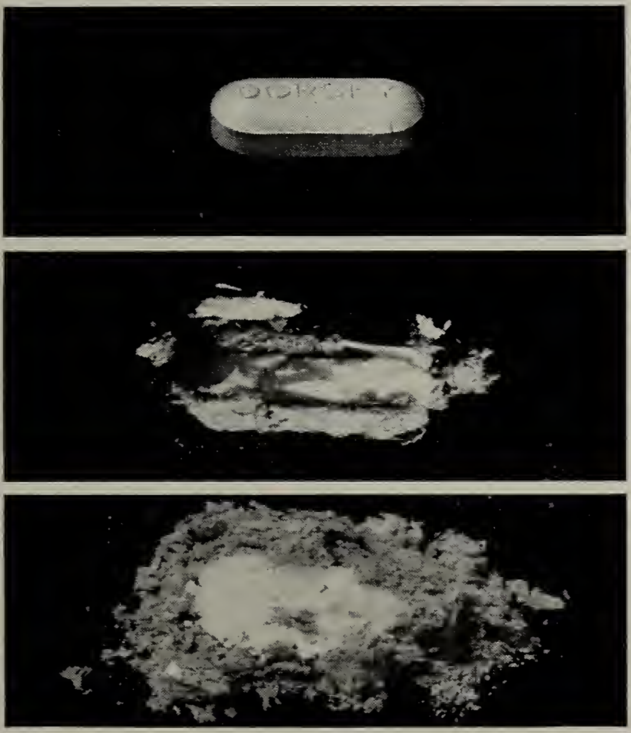
Buffered Pabirin combines new form and formulation for faster pain relief, improved gastric tolerance

Each tablet of Buffered Pabirin consists of an outer layer containing a buffer (aluminum hydroxide), para-aminobenzoic acid and ascorbic acid; an inner core of aspirin. The outer layer quickly releases aluminum hydroxide which affords superior buffering action and protects against gastric irritation. The core of Buffered Pabirin then disintegrates rapidly, permitting fast absorption of acetylsalicylic acid. PABA potentiates the acetylsalicylic acid and creates high salicylate blood levels. Ascorbic acid counteracts vitamin C depletion.

The new form and formulation of Buffered Pabirin provides high and sustained salicylate blood levels. It may be administered over long periods of time without the nausea, dyspepsia or other gastrointestinal symptoms so frequently experienced with salicylates alone.

in osteoarthritis, gouty arthritis, rheumatoid arthritis, bursitis, fibrositis, or tendinitis



Photographs show 2-stage Tandem Release disintegration

Buffered Pabirin® *Tablets*

Each tablet contains:

Acetylsalicylic acid (5 gr.)	300 mg.
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Ascorbic acid	50 mg.
Dried aluminum hydroxide gel	100 mg.

All Buffered Pabirin is sodium and potassium free

Dosage: Two or three tablets 3—4 times daily.

References: 1. Report of Joint Committee, Medical Research Council & Nuffield Foundation, Treatment of Rheumatoid Arthritis, British Medical Journal (May 29) 1223-1227, 1954. 2. ibid. (April 13) 847-850, 1957. 3. Hart, D.; Bagnall, A. W.; Bunim, J. J., and Polley, F. H.: Ninth International Congress on Rheumatic Diseases, Toronto, Ont. (June 25) 1957. 4. Lewis, L., *et al.*: Ann. Int. Med. *39*:116, 1953. 5. Demartini, F., *et al.*: J.A.M.A. *158*:1505, 1955. 6. Segaloff, A.: Ann. Allergy *12*:565, 1954. 7. Kern, R. A.: Am. J. M. Sc. *233*:430, 1957.

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Food and Drug Administration Seizes Medical Devices

Food and Drug Administration has made a roundup of six medical devices it describes as worthless. Two were cabinets wired for low voltage electric circuits and set up with elaborate dials and controls. Seized in the office of an operator who had both medical and chiropractic degrees, the devices were said to help in "body areas of congestion, inflammation and irritation," and to be valuable in treating undulant fever, cancer, tuberculosis, metallic poisons and serious infections. Another gadget was advertised as correcting or preventing disease by "measuring nerve interference." The other three devices were a rubber massage brush, an arrangement of colored lights, and an "infra red" generator seat, all advertised as helpful in treating a wide variety of diseases and conditions.

—*A.M.A. Washington Letter*

PHS Reports on Poliomyelitis for Last Year

A Public Health Service roundup on poliomyelitis statistics for 1957 shows 5,894 cases (all types) compared with 15,400 in 1956 and 29,270 in 1955.

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A versatile, dependable **diuretic**—the most widely prescribed of its kind: its unique action as a carbonic anhydrase inhibitor has proved strikingly effective not only in conditions requiring diuretic treatment but in the management of other conditions as well.

DIAMOX is well-suited to long-term therapy. Low toxicity, freedom from renal and gastrointestinal irritation, ease of administration make its use simple and singularly free of complications. Excretion of the drug by the kidney is complete within 24 hours, with no cumulative effects.[1]

Diuretic treatment with DIAMOX results in continuous rather than intermittent control of edema since DIAMOX is effective in the mobilization of edema fluid and in the prevention of fluid accumulation.[1] A single oral dose, active for 6-12 hours, provides the basis for the highly desirable advantage of daytime diuresis and nighttime rest.

Supplied: Scored Tablets of 250 mg.; Syrup containing 250 mg. per 5 cc. teaspoonful; Vials of 500 mg. for parenteral use.

1. Goodman, L. S. and Gilman, A.: The Pharmacological Basis of Therapeutics. Ed. 2. The Macmillan Co., New York, 1955, p. 856.

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Professional inquiries should be addressed to Keith A. Seaton, Registrar, Devereux Schools in California, Santa Barbara, California; eastern residents address John Barclay, Director of Development, Devereux Schools, Devon, Pennsylvania.

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Young Age Group to Force Change in Voting Patterns

Great social, political, and economic changes are in store throughout the world because of an approaching "new era of younging electorates," Economist Frank G. Dickinson, Ph.D., said in an article in the March 1 issue of the *Journal of the American Medical Association.*

The one-time University of Illinois professor said that these changes will start occurring in the next three years.

"The never-ending struggle of physicians against disease sometimes creates the impression that each hard-won gain will eventually mean an increasing proportion of older adults (those over 49)," Dr. Dickinson said, adding: "Nevertheless, the proportion of older adults in some nations will soon start to decline."

Dr. Dickinson, who has been director of the American Medical Association Bureau of Medical Economic Research since 1946, said the factors bringing about this change in the impact of eligible-voter masses by age groups are the rising birth rates and immigration which "more than counteract the mass of today's oldsters who are living longer because of medical advances. Both factors are producing many young voters."

"As the bumper crop of babies born since World War II matures into 21-year-old voters," Dr. Dickinson said, "the electorates of Western nations will start 'younging'."

Dr. Dickinson said this means that:

"—As the proportion of older voters, which has been rising rapidly in the 20th century, reaches a peak and then declines, the accent will again be on youth.

"—The 'younging' of the electorate—one force among many—will lessen the clamor for the guaranteed future, the riskless society.

"—Political leaders will want to please the younger voters at every turn, instead of the older voters.

"—Although the absolute number of older voters will continue to increase, the drive which their expanding numbers developed in the past half century for welfare state programs, anchored on free or almost free public pensions, will slowly wane as their proportion declines."

Dr. Dickinson backed up his demographic picture of the future with data collected over the years in this country and verified personally last year when he spent four months interviewing government leaders, clergymen, social scientists, legislators, and other close observers of social and political changes in New Zealand and Australia. He also obtained unpublished data in London and Paris.

His conclusions were that "Australia will lead the

(Continued on Page 52)

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"Meprotabs" are new, *coated*, white, unmarked 400 mg. tablets of meprobamate. ■ "Meprotabs" are pleasant tasting, and easy to swallow. ■ In this new form, the nature of medication is not identifiable by the patient. ■ "Meprotabs" are indicated for the relief of anxiety, tension and muscle spasm in everyday practice. ■ *Usual dosage:* One or two tablets t.i.d.

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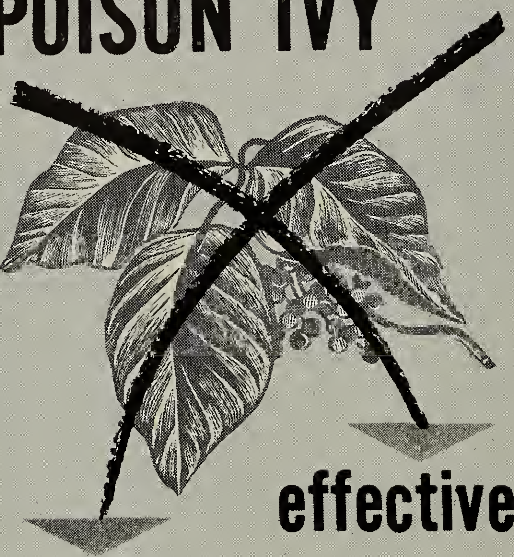

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AQUA IVY, AP®—the poison ivy and poison oak desensitizer, developed by Strauss and Spain, is the whole pyridine extract of poison ivy leaves which is alum precipitated to form an insoluble complex that is readily suspended in normal saline for injection. This results in immunity and prevents the severe reactions often seen from the prophylactic use of ordinary poison ivy extracts.

AQUA IVY, AP®, is administered subcutaneously with little or no pain, and without the usual reaction at the site of injection. That's why it is so.....

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Literature Available—Please Write Dept. C

"Peace of Mind" Drug Classification Altered

Some drugs may be called tranquilizers or "peace of mind" agents, but they're causing the American Medical Association drug classifiers a lot of confusion.

The American Medical Association Council on Drugs annually publishes "New and Nonofficial Drugs," a book which contains evaluations of new drugs. For the 52nd edition, now available to the nation's practicing physicians, the council set up a whole new system of classifying the so-called "peace of mind" drugs.

As the new drugs appeared, they were evaluated individually on the basis of scientific data and from reports of investigations. They were grouped under the general heading "ataraxics," a Greek derivative meaning "peace of mind."

However, the drugs have become so numerous and the situation so complex that this simple classification is no longer workable. But the new one in the 1958 "New and Nonofficial Drugs" is a complicated one, according to the council announcement in the March 1 issue of the *Journal of the American Medical Association.*

The "peace of mind" drugs will now be classified according to their effect on the central nervous system.

The increasing number of such drugs is creating a difficult situation for the average physician, the council said. "He is confronted with the problem of evaluating claims of usefulness for a wide variety of chemical substances with diverse pharmacological effects, which are proposed for the treatment of neurotic and psychic disorders."

The council feels that the present confusion was created by the introduction of certain drugs for the treatment of psychic disorders merely because they possessed unique pharmacological properties.

Among the variety of terms confronting the doctor today are: Tranquilizer, normalizer, calmative, neurosedative, psychic energizer, and pacific.

These terms are commonly used in referring to the human mental state and are more or less synonymous with "peace of mind." As such, they are psychological rather than pharmacological terms, since an improved mental state can be produced by a multitude of drugs which either depress or stimulate the central nervous system.

The new terms to describe meprobamate, chlorpromazine, and rauwolfia will now be "central muscle relaxant (skeletal muscle relaxant), sedative"; "central sympathetic suppressant, phenothiazine derivative," and "central sympathetic suppressant, rauwolfia derivative."

"Regardless of terminology, the ideal objective of psychotherapy with drugs is to induce an improved mental state," the council said.

While the new classification system is designed

(Continued on Page 56)

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A versatile, well-balanced formula capable of modifying the course of common upper respiratory infections . . . particularly valuable during respiratory epidemics; when bacterial complications are likely; when patient's history is positive for recurrent otitis, pulmonary, nephritic, or rheumatic involvement.

Adult dosage for ACHROCIDIN Tablets and new caffeine-free ACHROCIDIN Syrup is two tablets or teaspoonfuls of syrup three or four times daily. Dosage for children according to weight and age.

Available on prescription only.

TABLETS *(sugar coated) Each Tablet contains:*

ACHROMYCIN® Tetracycline	125 mg.
Phenacetin	120 mg.
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Salicylamide	150 mg.
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ACHROMYCIN® Tetracycline equivalent to tetracycline HCl	125 mg.
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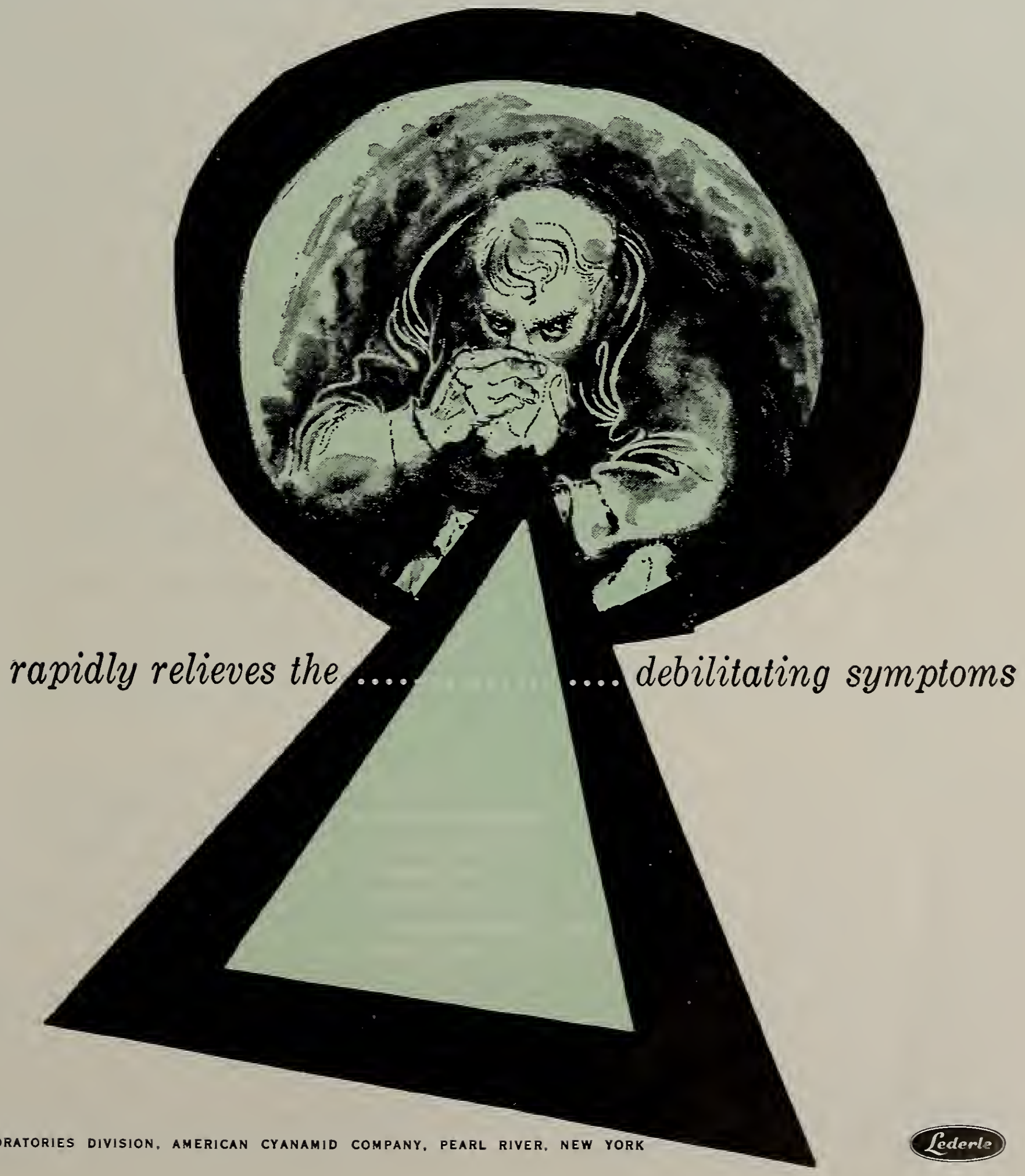
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Young Age Group to Force Change in Voting Patterns

(Continued from Page 44)

parade of nations into the era of the 'younging' electorate starting in 1961. Next will come New Zealand, where the proportion of adults (voters), age 50 and over, will start declining in 1962. France will follow in 1965 and the United States in 1970. It does not follow necessarily that the waning of the welfare state will proceed at the same pace in each nation after its electorate has started 'younging'."

Armour Gets PHS Award In Cancer Drug Testing

Public Health Service has awarded a $247,411 contract to Armour Research Foundation of Illinois Institute of Technology. Project is for investigation of chemicals and antibiotic filtrates as possible treatment agents against cancer. Awards for similar testing have been made previously to Stanford Research Institute, Arthur D. Little, Inc., and other nongovernmental laboratories.

—*Washington Report*

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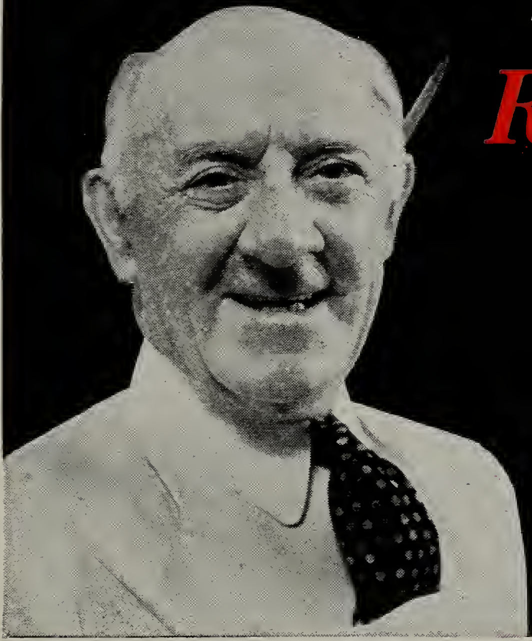

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"Peace of Mind" Drug Classification Altered

(Continued from Page 48)

to clarify the present picture, it is believed to be only a stop-gap measure. According to the council, "It appears probable that the gradually increasing number of new drugs, as well as new terms, will add to rather than detract from the confusion in this important field."

Diphemanil Methylsulfate Going Off Prescription List

Food and Drug Administration has published intention to exempt from prescription requirements those skin treatment drugs containing diphemanil methylsulfate. Over-counter sale would be allowed if suitable directions are carried on label for its use.

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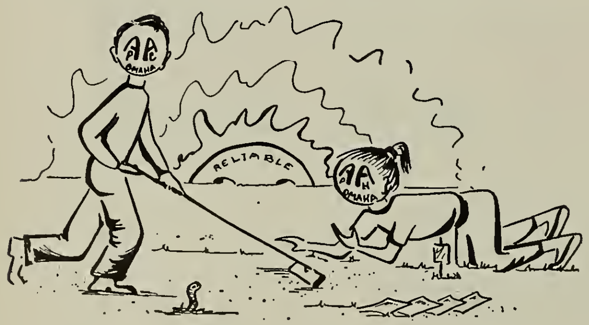

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The Treatment of Urinary Tract Calculi

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• From review of recent information relative to calculus formation in the kidney, the conclusion reached that we do not yet understand, despite much effort, the basic physicochemical mechanisms involved. Since this is so, it has seemed best to the author for the present to rely, in treating patients with renal stones, on simple therapeutic concepts, which, if carefully and conscientiously applied, produce good results. The concepts are the elimination of known causes such as parathyroid adenomas and obstructive lesions, elimination or at least treatment of infections, diminution of urinary components which form the basis of calculi by limiting the oral intake or absorption from the gastrointestinal tract and maintenance of a dilute urine of desired pH.

A plan for preoperative study is suggested to allow planned therapy. Indications for operative removal of calculi as well as some points of technique are discussed. It is emphasized that surgical removal of a calculus is but an incident in the care of patients with calculi and that treatment during the postoperative period and follow-up therapy is most important if success is to be achieved. Reports of cases to illustrate the application of these concepts are presented.

There is a great deal in the medical literature relative to factors in the initiation and development of urinary calculi, but it is safe to say that we do not yet know exactly how or why stones form. We recognize the relationship of excessive vitamin D administration, hyperparathyroidism, cystinuria and hyperuricuria to the development of calcium phosphate, cystine and uric acid stones and have assumed that such stones are to some extent the result of excessive concentration of these substances in the urine in association with inadequate volume of urine and urinary pH which favors the precipitation of crystals. Calculi developing in persons suddenly immobilized because of poliomyelitis, spinal injury or major trauma of any sort have been considered to result from high excretion of calcium salts released from the bony skeleton in association with inadequate volume of urine and high urinary pH.

There is no doubt that some stones form in the presence of obstruction and in the absence of demonstrable metabolic abnormalities by virtue, perhaps, of retention of crystals or crystalline masses which, in the absence of obstruction, would pass. Triple phosphate calculi occur frequently in the presence of urea-splitting infections, particularly when stasis is present as well.

We do not yet know much about oxalate metabolism and its relation to oxalate calculi. Nor do we know the specific factors responsible for the development of Randall's plaques in or on the surface of renal pyramids which act as the point of origin of some calculi.

It seems unlikely that in this country vitamin A deficiency, a demonstrated cause of experimental calculi in animals, can play a major role in stone formation. Little is yet known of the role of colloids

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Guest Speaker's Address: Presented before the Section on Urology at the 86th Annual Session of the California Medical Association, Los Angeles, April 28 to May 1, 1957.

in the process of stone formation. It has been assumed in the past that the physical state of dispersion of colloids may increase or decrease the ability of urine to hold the less soluble electrolytes in solution by adsorption. This may not be so.

Boyce, Garvey and Norfleet[2,3] isolated the urinary biocolloids (their term for urinary colloids) and found that they consist of at least two mucoproteins. The largest single component is a carbohydrate-protein complex of high molecular weight. These mucoproteins were found to be greatly increased in the urine of some patients with calcium calculi. Two patients with hyperparathyroidism had the highest concentration of any patients they studied. Boyce suggested that the organic matrix of calculi may be a modified or activated form of the mucoproteins normally found in urine. His concept of stone formation is that the initial and essential phase is a condensation of mucopolysaccharides and mucoprotein molecules constituting a coagulum of uncalcified matrix which may vary in size from a few molecules to a mass large enough to fill a renal calyx or pelvis. Deposition of inorganic crystals is a secondary phenomenon usually occurring quite rapidly but sometimes requiring weeks to reach maximum density in large calculi. The deposition of crystals is governed by the principles of physical chemistry which controls the formation of crystals from complex solutions. The origin of calculus matrix remains unknown but the presence of similar or identical mucopolysaccharides in connective tissue and in bone matrix has been demonstrated. The stone matrix could be derived from bone matrix or connective tissue outside the urinary tract.

Baker and Connelly[1] expressed the opinion that the high molecular weight of mucoproteins in the urine makes it unreasonable to assume that their presence in the urine is the result of filtration throughout the glomerulus or of secretion or excretion by tubule cells. In experimental work they demonstrated alterations in the renal tubule connective tissue mucoprotein immediately preceding the development of calculi in rats. This was observed consistently with four different methods of producing experimental renal calculi. Needle biopsy specimens of both kidneys were obtained from a small number of patients with unilateral calculi, and bilateral alterations of the renal tubule connective tissue matrix or mucoprotein were observed. In rats renal calcification or stone formation occurred in the altered mucoprotein whether within the kidney (nephrocalcinosis) or the renal pelvis or urinary bladder. As a result of these and other observations it was their impression that formation of urinary calculi may not be a disease of urine but rather a systemic condition specifically involving the renal connective tissue matrix of both kidneys. Baker expressed belief that evidence is accumulating that pathological calcification anywhere, including renal calculi, is a disease of connective tissue matrix and as such is essentially a collagen disease.

He went on to say that on the basis of this evidence—that is, altered connective tissue mucoprotein—he used "anti-inflammatory" drugs in treatment of animals with a known incidence of calculi and in a study of patients with recurrent stone, and there was an almost 50 per cent reduction of recurrence. Drugs used were acetylsalicylic acid, cortisone acetate, other corticosteroid hormones, phenylbutazone, and corticotropin. He cited the work of Snapper, Bendien and Polak,[8] who showed that sodium salicylate inhibits precipitation of urinary colloids, and concluded that this concept of salicylate action is more tenable than the assumption of Prien and Walker[5,6] that the administration of salicylate increases the solubility of calcium by virtue of increased glucuronide excretion in the urine.

Confirmation of these concepts is not yet at hand. Butts' use of hyaluronidase to increase dispersion of urinary colloids has not been substantiated. Prien's results from the use of acetylsalicylic or allied drugs to increase the solubility of calcium salts by the increased excretion of urinary glucuronides are open to question, although possibly their effectiveness may be found to be due to other mechanisms. The effect of estrogen and the role of citric acid as a calcium solubilizer has not yet been exploited.

We are left, therefore, with the necessity of dealing with factors that are to some extent under our control—metabolic disturbances, ingestion of calcium and phosphorus, urine volumes, urinary pH, obstructions and infections.

Since we are unable to single out potential stone-formers in the general population, we are not able to talk of the prevention of calculi except as we treat urinary tract infection, relieve obstruction and oversee the care of immobilized patients. We are, in general, confronted with the problem of preventing recurrence of calculi in persons relieved of calculi by spontaneous passage, cystoscopic instrumentation or operation. We also may be called upon to try to prevent further growth of calculi known to be present but for some reason not removed and, in addition, to try to dissolve them. So far, the methods available have been disappointing.

It is the purpose of this paper to show that effective therapy is possible without reference to colloids or acetylsalicylic acid.

It has been my observation that, in general, little is to be accomplished by attempts at dissolution or limiting the growth of calculi. Most patients ultimately require surgical operation because of an acute situation due either to infection or obstruction or both, which not infrequently leads to operation at a time when removal of the stone is more difficult and necessary reparative procedures less likely to bring about a good anatomical and physiological result. It seems best to state that, barring exceptional situations resulting from age or serious disease, all calculi should be removed in appropriate fashion and at an appropriate time. The treatment of patients with renal or ureteral stones should be divided into three parts: (1) Preoperative examination, observation and treatment, (2) cystoscopic or operative removal and (3) postoperative care.

As a basis for postoperative therapy to prevent regrowth of calculi, complete examination and observation before operation is essential. It has become my practice to study all patients fully, regardless of the apparent situation. Sometimes this is impossible before operation because of an acute situation, but, if so, it should be done as soon as possible after operation because unexpected information may emerge from the study. The necessity for this has been impressed upon me in the course of treating patients with unrecognized hyperparathyroidism, hyperuricuria, cystinuria, and obstructive inflammatory situations which led to unnecessary sacrifice of kidneys, unnecessary disability, expense, and even death.

The plan for study of a patient consists of:

1. A careful history with emphasis on past and present urinary tract symptoms, injuries, operations, treatment of gastric or duodenal ulcer, dietary habits, usual daily fluid ingestion. Often this discloses valuable information which may permit a shrewd guess as to some factors responsible for calculi.

2. Physical examination, which is often unrewarding but should nevertheless be done carefully. Occasionally one may palpate a parathyroid nodule, or upon examination of the kidney areas, abdomen, genitalia or prostate, abnormalities may be noted which require investigation and may have causative relationship.

3. Examination of the urine. This should include a careful study of the sediment with attention to the crystalline content which may give a good lead as to the type of calculus. Culture and sensitivity studies provide a basis for antibiotic therapy before and after operation. The presence of urea splitting organisms should be known. A nitroprusside test for the presence of cystine should be routine. A Sulkowitch test for calcium provides a rough idea of the calcium content in the urine.

4. X-ray studies are initiated with a kidney-ureter-bladder film and intravenous urograms, which may provide all necessary information, including the probable composition of calculi. However, in my opinion cystoscopic examination is essential. This should include estimation of residual urine, study for ureteral reflux, observation for bladder neck obstruction, and bilateral ureteral catheterization for collection of urine specimens for culture and estimation of pH. Good pyeloureterograms are essential. I have noted that ureterograms are often inadequate or often not done. An air pyelogram may be helpful in distinguishing nonopaque calculi from tumors of the renal pelvis or ureter. If calcium stones have been repeatedly found in one kidney, it is a good plan to get differential calcium excretion studies because occasionally the kidney in which stones reform may be found to excrete more calcium than its normal mate.

5. Blood is always drawn for serum calcium and phosphorus estimation as well as for uric acid determination. It is important to know these values. Since the determination of calcium in the laboratory is one of the more difficult tests, one must know with certainty what the normal values for each laboratory are. Otherwise, the diagnosis of hyperparathyroidism, which is essentially based on laboratory findings, is impossible. It is my custom to also collect 24-hour urine specimens for determination of calcium excretion, preferably with the patient on a normal diet, since this represents normal conditions; but if calcium excretion is considerably elevated, the patient may be given a low calcium diet for two days before the test is repeated. Determination of 24-hour excretion of uric acid may be desirable if the patient has uric acid stones, since this forms the basis for estimating the magnitude of the problem and may provide a good guide as to the effectiveness of therapy.

When these tests and examinations have been completed, one knows a great deal about the case. Negative results of tests are as valuable as positive ones. It is desirable, in the presence of hyperparathyroidism, not to operate for the removal of calculi until the parathyroid tumor is removed because of the danger that calculi will quickly recur. Cystine or uric acid calculi should not be removed until the urine has been made alkaline. It is a good plan to keep a chart of the pH of each voiding for a day or two before operation to determine how much alkalization is necessary.

CYSTOSCOPIC AND OPERATIVE REMOVAL OF CALCULI

Instrumental removal of ureteral calculi is a valuable procedure but it calls for judgment and skill and is not without hazard. In general, one may state that only small calculi in the lower third of the ureter should be dealt with in this manner. Very jagged calculi even though small, should probably be removed by open operation rather than risk significant trauma to the ureter which may lead to stricture. A urologist's choice of methods depends somewhat on experience and skill. My own method of procedure is to operatively remove all ureteral calculi which have lodged in the upper third of the ureter, to operatively remove large (greater than 0.8 cm. in diameter) calculi lodged in the lower ureter unless they are in the intramural portion and can be caused to pass by cystoscopic ureteral meatotomy. I make one attempt to by-pass small calculi by cystoscopic manipulation and to extract them with a catheter loop or Johnson-type stone basket constructed of nylon threads. If this is not successful but the calculus can be passed by several catheters, I sometimes leave the catheters in place and occasionally get a stone by twisting and removing the catheters later. Usually, however, and particularly if there is evidence of infection above the stone, ureterolithotomy is done without delay in order to avoid the likelihood of an established pyelonephritis. Free drainage of urine is the best treatment for acute pyelonephritis. Many times significant renal damage occurs as a result of repeated attempts to remove a stone by cystoscopic manipulation.

The surgical treatment of renal calculi should have as its purpose:

1. The complete removal of all calculi without permanently damaging the parenchyma, pelvis or ureter.

2. Correction of any obstructive lesion.

3. The removal, by partial nephrectomy, of any renal unit that is irreparably damaged, not needed, and in which recurrence of stone is likely. (This may not be feasible when all functioning renal tissue is necessary to support life.)

It is probable that in the conduct of renal operations for stone, few urologists successfully accomplish these aims regularly. As a result of incomplete removal, "recurrence" of stone often takes place. Of course, the removal of all stone fragments may be technically impossible without severely damaging the kidney. The lack of recognition of mild ureteropelvic junction obstruction or replacement of the ureter or ureteropelvic junction after operation in such a way that angulation or stricture develops, often leads to persistence of infection or recurrence of stone or both. In the course of operation the ureteropelvic junction and upper ureter should be carefully visualized and obstruction by stricture or anomalous vessel corrected. The need for surgical correction can usually be anticipated if proper preoperative study is conducted. Proper repositioning of the ureter and pelvis is often aided by nephropexy. Occasionally, the ureter or ureteropelvic junction must be maintained in proper position by the insertion of a catheter split through the cortex or the renal pelvis.

There is usually no great technical feat connected with the removal of a calculus or calculi free in the pelvis unless the pelvis is all or nearly all intrarenal. In such cases one can make the operation relatively easy by freeing the kidney completely, thus exposing the renal vessels, and by tipping the kidney in the best way to approach the pelvis, retract the renal vessels, and expose enough of the intrarenal pelvis to incise it safely by retracting, but not incising, the renal tissue overlying the pelvis, using a small vein retractor. There is no need for haste in such cases. A little time spent in exposing all structures makes for safety, for less trauma, and for less likelihood of subsequent stricture of the ureteropelvic junction. When the pelvis is large enough to allow it, a narrow retractor may be placed in the pelvis and give good visual exposure of all the pelvis proper, even allowing one to look into the various infundibula or major calyces.

When calyceal stones are present which may not be removed by way of the pelvis it has been my practice to put a bulldog clamp on the renal artery to prevent bleeding, to locate the stone by putting a finger into the pelvis, and then incise the renal capsule directly over the stone. Using the blunt handle of the knife, it is possible to separate the elements of the renal parenchyma and approach the stone directly through the renal pyramid. Since there is no bleeding to obscure the view, one may see into the calyx, particularly if a small nasal speculum is used to retract the renal parenchyma. Using this technique one may visualize crystals or small fragments of stone on the calyceal mucosa and remove them with small wipes of gauze.

Partial staghorn calculi may often be removed by pyelotomy if one takes time to gently dilate the neck of infundibula or calyces to allow the segments of stone found in these compartments of the pelvis to slip through. Such stones may be delivered by traction and rotation of the stone while pressure is applied on the surface of the kidney. Radial incisions from the hilum through the cortex, except very short ones, are to be decried, since branches of the renal artery supplying the anterior or posterior halves of the kidney may be divided.

I believe that large staghorn calculi or large calculi which may not be delivered through the pelvis should be removed by longitudinal incision along the coronal plain (Brödel's line) after first occluding the renal artery. The incision should be made with reference to the location of the stone. Very rarely must the entire kidney be completely sectioned. The incision should be made through the renal capsule and then the renal tissue separated, using the knife handle. By this method renal vessels can be demonstrated and ligated as one approaches the pelvis. After removal of all stone and gently wiping the calyces and pelvis free of fragments, one may release the renal artery and clamp and ligate any bleeding vessels with fine sutures. The kidney pelvis and parenchyma may then be closed without using heavy sutures which will compress and destroy renal parenchyma.

The use of nephrostomy or pyelostomy tubes should, in general, be avoided since these almost inevitably lead to the introduction of organisms all too often of the urea-splitting variety. A small vent in the pelvis with a drain placed near it is all that is necessary, and this should be removed as soon as possible.

Altogether, it would seem that a major effort should be made to improve the nicety of intrarenal operations. Much may be accomplished by a reevaluation of this subject. When fluoroscopic visualization of the calyces, pelvis and ureter becomes possible and practical, and particularly when cinefluoroscopy is generally available, the information obtained can be expected to guide the surgical technique. Renal arteriography may be of great aid in planning the surgical removal of renal calculi.

POSTOPERATIVE CARE

After operation to remove calculi, which is often wrongly considered an end in itself, comes the problem of after-care. The immediate problems associated with this phase are rapid restoration of urine flow through the kidney for its flushing action to rid the kidney of clot, fibrin and crystalline debris. A high fluid intake is desirable unless there are limiting factors such as cardiac disease or pronounced renal impairment. A daily intake of at least 3,000 cc. of fluid, and preferably more, during the postoperative period is desirable. This accomplishes two things: It maintains a dilute urine in relation to electrolyte content and teaches the patient what an adequate fluid intake actually is in terms of fluid per day. It is not enough to urge patients to drink fluid; one must see to it that they do take adequate amounts.

In addition, one must stress around-the-clock administration of fluids for patients who are recurrent stone-formers. Adequate and appropriate antibiotic therapy is essential and should be based on sensitivity studies made on urine obtained for culture before operation or directly from the kidney pelvis at operation.

Patients with cystine or uric acid stones should be given enough 50 per cent sodium citrate solution by mouth to maintain an alkaline urine of pH 7 during the whole 24 hours. This may necessitate drinking the solution during the night. Charts should be kept of the pH of all voided urine until the proper alkalinization is accomplished. The patient should be encouraged to do this at home by himself so that one may know for sure whether the urine is maintained at the proper pH.

Patients with calcium stones and triple phosphate stones should be held to a low calcium diet, and administration of fluid should be pushed hard. If a complete removal of all but crystalline fragments of stone has been accomplished, the immediate postoperative period is very important, for it appears than in many patients recurrence of stone develops very early. A good acidifying agent aside from acid-ash diet is cranberry juice. It can be used liberally in place of other fruit juices. Perhaps all stone patients should be given acetylsalicylic acid or an equivalent, although this is far from being an established important therapeutic addition. In any case, it will do no harm.

After immediate convalescence has been accomplished an intravenous pyelography should be done to see what the functional and anatomical condition of the upper urinary tract is. If there is evidence of obstruction or residual calculi, then the operation was inadequate. It is best to know this early and to plan reoperation in cases in which it is necessary.

The necessity for long-term and careful observation, in the office, of patients who are recurrent stone-formers is obvious. This consists of interval radiographic study and careful examination of the urine to make sure it is crystal-free and of the proper pH. Patients with calcium oxalate stones usually do well by simply ingesting enough fluids. On the other hand, patients with recurrent calcium phosphate or triple phosphate stones are real problems. In addition to adequate fluid intake, which may necessitate a constant daily consumption of 4,000 cc., a low calcium diet obtained by eliminating dairy products from the diet and supporting therapy to immobilize calcium or phosphorus in the bowel may be tried. This should be controlled by estimation of calcium and phosphorus urine excretion for 24-hour periods before and during administration of medication to know whether it really is effective.

To approach this problem from the phosphate side, the use of the Shorr regimen[7] (aluminum jel preparations) in amounts of 3 or 4 ounces each day partially blocks the absorption of dietary phosphorus and may be of benefit, although it may cause troublesome constipation. Its use would seem to be most indicated in the presence of triple phosphate stone. The elimination of part of the phosphate excreted in the urine might be expected to result in depriving calcium, magnesium and ammonium ions of phosphate radical to form insoluable triple phosphate. Recently, Henneman, Carroll and Albright[4] reported the use of sodium phytate to decrease the urinary excretion of calcium and magnesium. Their studies indicated that 9 gm. per day of sodium phytate taken by mouth considerably decreases absorption from the bowel and accordingly urinary excretion of calcium and magnesium. One-third to one-half of the administered phytate apparently is not absorbed. It probably forms insoluble and unabsorbable complexes with calcium and magnesium. As a consequence of decreased absorption, the urinary excretion of calcium and magnesium decreases without materially altering calcium balance, suggesting that the absorption of dietary calcium is blocked but that there is no interference with the resorption of calcium secreted into the intestine through the bile and other intestinal juices. These investigators concluded that sodium phytate appears to be a safe therapeutic agent in adults and of value in the treatment of certain renal stone syndromes. It would appear that this may offer a valuable addition to the treatment of patients with recurrent calcium phosphate and triple phosphate calculi. Further investigation is certainly warranted.

To illustrate a few of the problems of diagnosis, surgical treatment and postoperative care, the following cases are presented:

CASE 1. The patient, a 42-year-old physician, was admitted to hospital November 20, 1955. He gave a history of bilateral renal colic at intervals since 1947, often associated with hematuria and the passage of multiple small calculi. None of the calculi had been analyzed but uric acid crystals had been found in the urine. An intravenous urogram, made just before admittance to hospital, showed relatively nonopaque calculi in both kidneys with mild hydronephrosis on the left. There was a history of diabetes in the family but the patient himself had never tested his urine for sugar. The blood uric acid content was said to be normal.

On physical examination he was observed to be somewhat obese. The blood pressure was 145/95 mm. of mercury. Tenderness was noted in both costovertebral angles. The hemoglobin content was 14.6 gm. per 100 cc. of blood. Leukocytes numbered 9,450 per cu. mm. The urine had a strong acid reaction, specific gravity of 1.021, 2+ albumin and 1+ sugar content, and 50 erythrocytes and 5 leukocytes per high power field. Culture of the urine showed Staphylococcus aureus sensitive to chloramphenicol. A nitroprusside test on the urine was negative for cystine. Serum content of calcium was 9.6 mg., of phosphorus 3.4 gm., and of uric acid 7.2 mg. per 100 cc. Calcium excretion in the urine (the patient not being on a low calcium diet) was 49 mg. in 24 hours. Phenolsulphonphthalein excretion was 35 per cent in one-half hour, 88 per cent in two hours. Fasting blood sugar at the time of admission was 163 mg. per 100 cc., but when a glucose tolerance test was done the blood sugar went from 176 mg. to 385 mg. per 100 cc. in two hours.

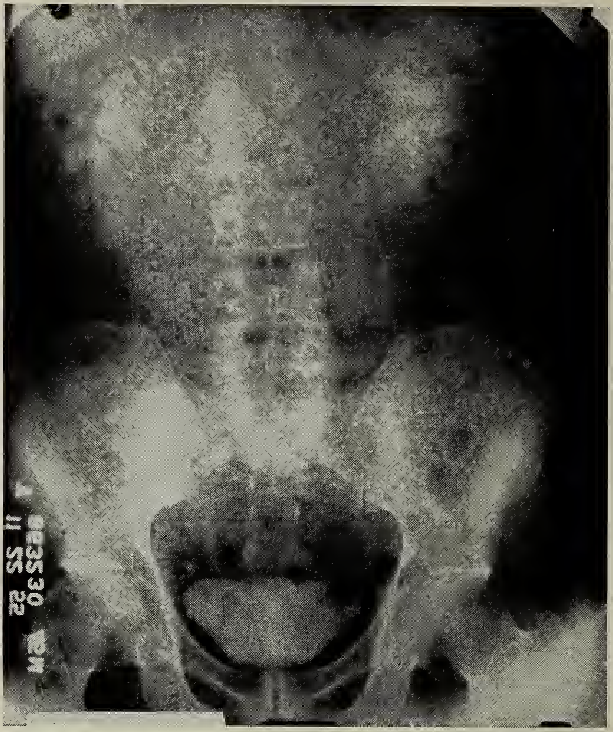

Figure 1 (Case 1).—Intravenous urogram. This demonstrates mild bilateral hydronephrosis, filling defects in renal pelves due to calculi, and good function of each kidney.

Results of x-ray studies were as follows: The chest was normal. A kidney-ureter-bladder film showed bilateral renal calculi filling the renal pelvis The stones were only semi-opaque and suggested either cystine or uric acid content. Both kidneys excreted contrast substance promptly. There was bilateral hydronephrosis of about equal degree. The ureters were not dilated (Figure 1).

Removal of the calculi was planned after the urine was made alkaline by oral administration of 50 per cent sodium citrate solution. It was found it was necessary to give 8 cc. of this solution four times a day to bring the pH of the urine up to 7. No insulin was given before operation.

The left kidney was operated upon on November 25, 1955. The incision was placed over the 12th rib, which was subperiostially resected. The kidney appeared somewhat scarred but the ureter was not dilated. The pelvis was found to be largely intrarenal and crossed by an anomalous artery and vein passing to the lower pole of the kidney. By retracting these with a small vein retractor the pelvis was satisfactorily exposed so that a longitudinal incision could be made. The stone was found to be triangular. By careful freeing, the stone was finally delivered without injury to the vessels, the pelvis or the kidney. Palpation of the interior of the pelvis then revealed many small calculi in the lower and middle calyces. Most of them were extracted by the finger, but one calculus in the lower calyx and another in the mid-calyx had to be removed through small nephrotomy incisions made directly through the renal pyramids. As almost no bleeding occurred it was not necessary to place sutures in the renal parenchyma or capsule. A nephrostomy tube (whistle-tip No. 28 Latex catheter) was placed through the lower nephrotomy into the pelvis so that urine could be obtained directly from the pelvis for microscopic study and pH determinations.

Convalescence from operation was very satisfactory. Urine from the nephrostomy tube was clear and was maintained at a pH of 6.5 to 7. On December 1, dye was injected through the nephrostomy tube and a pyelo-ureterogram was obtained which showed no residual calculi or obstruction. The nephrostomy tube was removed. Because of some wound infection, evidence of spillage of sugar in the urine, and elevated blood sugar, administration of protamine zinc insulin, 15 units each morning, was begun. The wound infection cleared and on December 12, 1955, the large triangular stone and several smaller stones were removed from the right kidney by anterior pyelotomy. Since there was no bleeding and no evidence of obstruction, the pelvis was closed except for a small vent and the wound drained with a rubber wick. Following this there was some fever for several days due to pulmonary atelectasis, which gradually cleared. Urine never drained from the incision. The rubber drain was removed on the seventh postoperative day. An intravenous urogram (Figure 2) showed good function without evidence of hydronephrosis. Upon analysis the stones were found to be pure uric acid.

The patient was sent home with prescription of fluid intake of 4,000 cc. daily, 8 cc. of 50 per cent sodium citrate solution to be taken four times a day, the last just before retiring (this having been found to maintain the urine at a pH of 7), diabetic diet without insulin, and instructions to have the urine cultured after two weeks, and to take additional antibiotics (chloramphenicol) if any infection persisted.

The patient followed all instructions completely. The latest report was on March 23, 1957, and at that time the urine was sterile. Intravenous pyelograms showed no abnormality, the urine was kept free of uric acid crystals by maintaining a fluid intake of 4,000 cc. a day and the continued use of alkalizing agent. The patient had found that two teaspoonfuls of 50 per cent sodium citrate solution four times a day maintained the urine at a pH of 7 at all times. The blood urea nitrogen content 12 to 17 mg. per 100 cc. and to uric acid content was between 4.5 and 5.1 mg. per 100 cc. The Diabetes was controlled.

Note: This case illustrates the successful handling of a complicated uric acid stone problem with complete cooperation of the patient and gives details of the examination, observation and tests, the preoperative preparation, the operative removal of calculi and the postoperative care necessary in dealing with such a case.

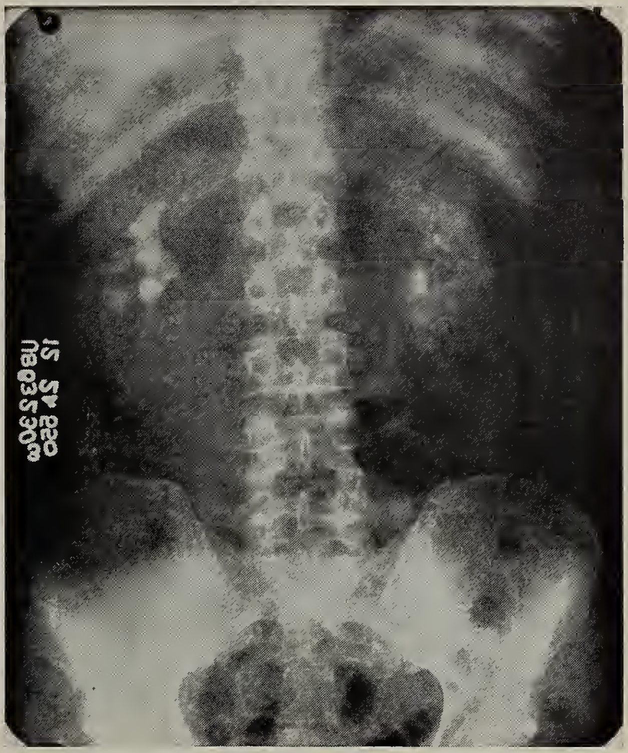

Figure 2 (Case 1).—Postoperative intravenous urogram which demonstrates almost complete resolution of bilateral hydronephrosis. No residual calculi are demonstrated.

Case 2. The patient was an 18-year-old college student admitted first to the Phillips House of the Massachusetts General Hospital on January 23, 1955. He gave a history of having had bladder calculi removed at the age of two and of right nephrectomy for calculus disease at the age of ten. None of the calculi were analyzed.

In August, 1954, a relatively nonopaque stone was demonstrated by x-ray in the remaining kidney. At the same time it was found that the serum uric acid was elevated to 9 mg. per 100 cc. The serum calcium and phosphorus content were within normal limits. The patient was placed on a weight reducing regimen and a low purine diet. Fluids were forced. In spite of these measures the stone increased in size and in density. It was removed in December 1954 at another hospital. Stone analysis at that time showed calcium oxalate. The patient was then admitted to the Massachusetts General Hospital for study, having made a good convalescence from the operation.

Except for multiple surgical scars and mild obesity, no abnormalities were noted on physical examination. The blood pressure was 130/90 mm. of mercury. The urine gave an acid reaction, the specific gravity was 1.022, the albumin reaction 1+.

It contained cystine crystals. Staphylococcus albus reasonably sensitive to chloramphenicol grew on a culture of urine. The serum uric acid content was 6.8 mg. per 100 cc., calcium 9.2 mg. per 100 cc., and phosphorus 3.7 mg. per 100 cc. Urine calcium excretion in 24 hours was 104 mg. Phenolsulphonphthalein excretion was 30 per cent in one-half hour and 80 per cent in two hours. An intravenous urogram showed no calculi. The left kidney shadow appeared somewhat enlarged. The kidney excreted dye promptly and in good concentration. The calyces appeared somewhat blunted and the lower infundibulum slightly widened. There was no evidence of ureteral obstruction, however (Figure 3).

Neither the mother nor the father of the patient had cystinuria. It was obvious that cystinuria and formation of cystine stones was probably the primary problem in this case and that the calcium oxalate in previous stones was owing to the secondary deposition of calcium oxalate on a cystine nucleus. The patient was discharged with instructions to take three to four thousand cubic centimeters of fluid daily, to omit dairy products from his diet and to take 12 cc. of 50 per cent sodium citrate solution four times daily. He was taught how to determine the urinary pH and specific gravity and how to examine the urinary sediment for crystals. To do this, he bought a microscope. He was to keep charts so that we could study the effectiveness of the therapy.

All went well for a time. The urine remained at a pH of approximately 7.5. Fluid intake approached 4 liters daily. X-ray films showed no recurrence of stone until January of 1956 when a kidney-ureter-bladder study demonstrated a calculus again in the kidney. It seemed that the precipitating factor was an automobile trip to Mexico in the fall of 1955, during which the patient strayed from the prescribed regimen. As a consequence he was readmitted to the Massachusetts General Hospital on February 20, 1956.

The blood pressure at this time was 100/70 mm. of mercury. An intravenous urogram showed a clearly defined calcification, consisting of a partial staghorn stone filling the lower calyces and the lower infundibulum of the remaining kidney (Figure 4). Renal function was prompt and, except for distortion of the lower calyces by calculus, the pelvis and the calyces appeared essentially normal. Laboratory studies showed serum uric acid of 7.2 mg. per 100 cc., calcium 104 mg. per 100 cc. and phosphorus 4.1 mg. per 100 cc. Urinary calcium excretion in 24 hours was 61.2 mg. on one occasion and 127.6 on another. The urine was again positive for cystine (nitroprusside test).

It was felt that the stone should be removed before it became larger and more of a surgical problem. Therefore on February 27 the left kidney was explored and the stone removed through a pyelotomy and a small nephrolithotomy. It was found that there were two types of stones, an irregular rough stone which was found to consist of calcium phosphate and cystine, and small spherical stones consisting of pure cystine. At operation a nephrostomy tube was left in the pelvis through the lower calyx for four days. A renal biopsy showed a normal kidney. Convalescence was entirely satisfactory.

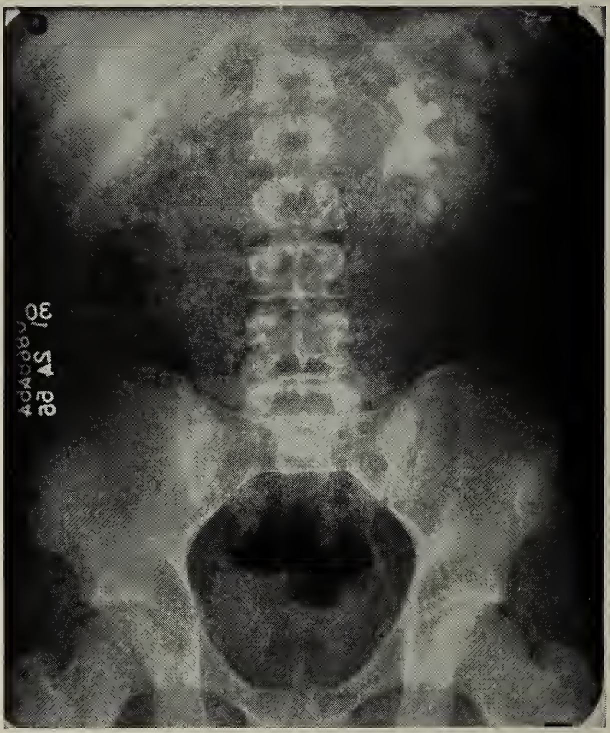

Figure 3 (Case 2).—Intravenous urogram. There is good renal function with slight dilatation of all calyces.

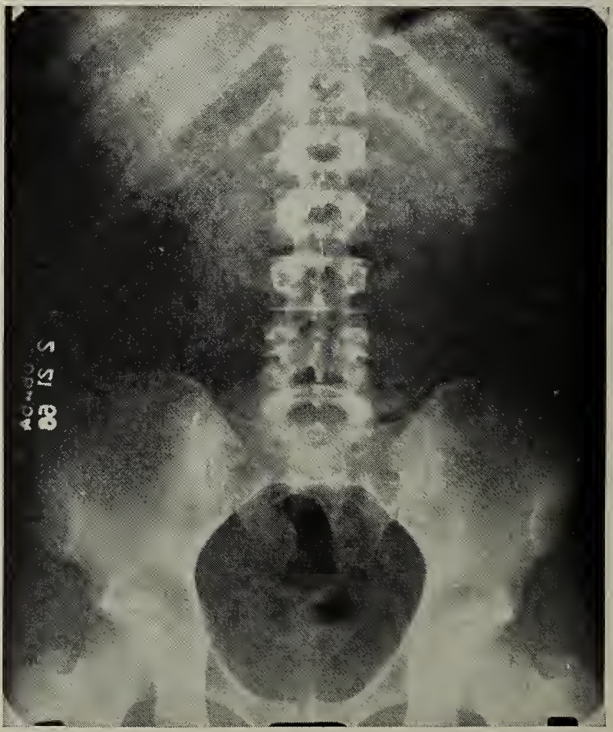

Figure 4 (Case 2).—Kidney-ureter-bladder x-ray film. The calculus filling the lower calyces and infundibulum is clearly shown.

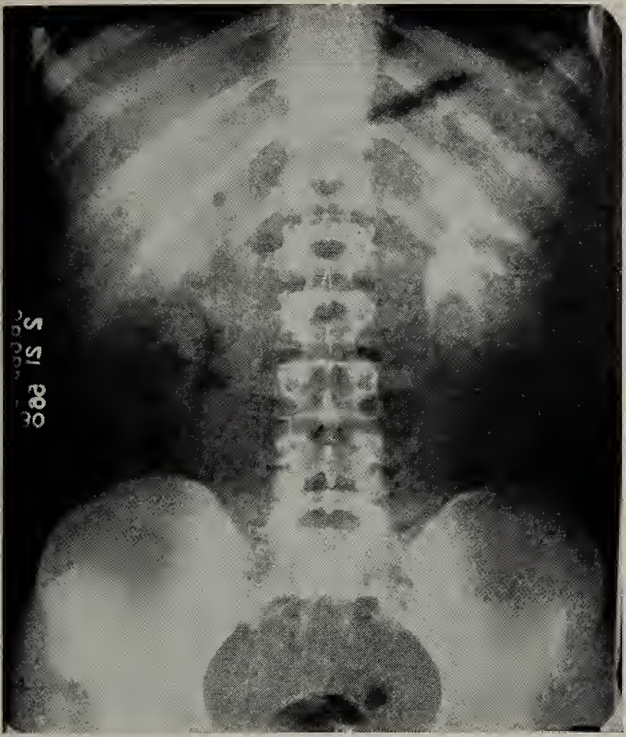

Figure 5 (Case 2).—Postoperative intravenous urogram. Although the dye obscures them here, two small residual calculi were noted on the kidney-ureter-bladder film.

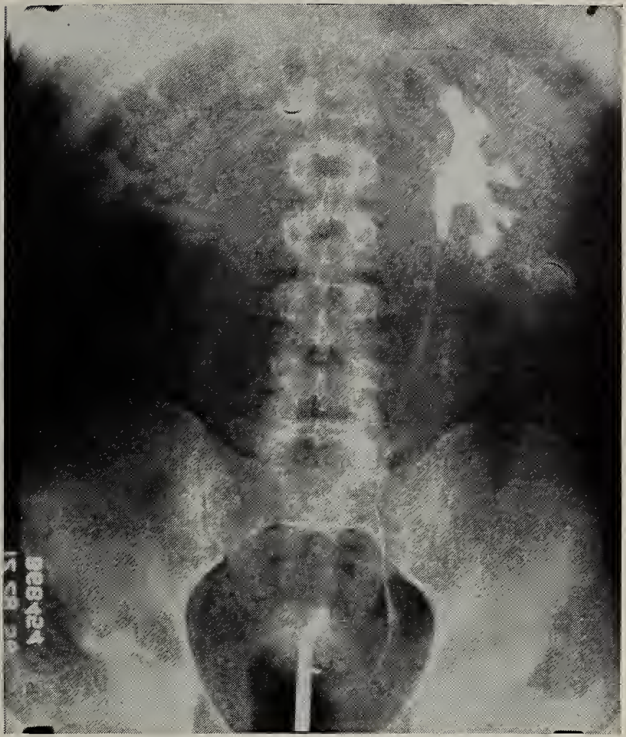

Figure 6 (Case 2).—Retrograde pyelogram made 10 months after operation. Subsequent pyelographic studies in July 1957, 16 months after operation, showed no calculi and similar pyelographic picture.

Urine obtained directly from the left kidney pelvis at operation was sterile. Phenolsulphonphthalein excretion was 70 per cent in two hours. A postoperative intravenous urogram (Figure 5) showed two probable small residual or recurrent nonopaque calculi in the lower calyces of the kidney. There was no change in the calyceal pattern but there was a suggestion of narrowing of the uretero-pelvic junction, thought probably due to postoperative scar. It was hoped that this would resolve.

It seemed quite certain at this point that cystine calculi represented the primary problem, which was compounded by the deposition of calcium phosphate due to the maintenance of an alkaline urine. Study of the urine sediment showed that cystine crystals appeared when the pH was below 6. Calcium phosphate crystals became apparent above pH of 7. The problem therefore was a difficult one. It was finally decided to try to maintain a mildly alkaline urine with low specific gravity by a high fluid intake and a moderate dose of 50 per cent sodium citrate daily. In addition, acetylsalicylic acid was given in the hope that the drug might favorably affect the solubility of calcium phosphate in the urine.

The patient was readmitted for study on December 27, 1956. He had no complaints of any sort. Cystoscopy and calibration of the left ureter were carried out. The ureter took a No. 10 bulb easily, but 10 cc. of urine could be aspirated from the kidney pelvis, indicating inadequate drainage. A kidney-ureter-bladder x-ray film and air and conventional pyelograms were made. The small stones that had been visualized ten months before were less clearly visualized, but there seemed to be still one or more small stones in the lowest calyx. Moderate dilatation of the calyces and pelvis was still present (Figure 6). The patient was discharged with instruction to continue the regimen as before, and he continued well. Intravenous urograms made in July, 1957, showed no calculi.

Note: It may be desirable in this case to resect the lower calyx as a stone-bearing area, since calculi have not demonstrably formed elsewhere in the kidney. It would seem possible that the two operations on the lower calyces damaged the calyceal musculature so that peristaltic activity of these lower calyces is not normal. In any case, this illustrates one of the more difficult stone problems—primary cystine stones associated with calcium oxalate or calcium phosphate stones probably due to alkalinization of the urine with decreased solubility of calcium and a tendency to precipitate on cystine nuclei. A regimen of alkalinization and high fluid intake, to be fairly effective must be rigidly adhered to, regardless of other considerations. It is fortunate that the patient here reported upon is intelligent, willing and cooperative. The complexity of the problem in handling such cases is well illustrated. Fortunately, infection was of no major concern in this case.

CASE 3. A 60-year-old woman was admitted to the Phillips House of the Massachusetts General Hospital on October 30, 1950. At that time she gave a history of bilateral flank pain since the age of 5

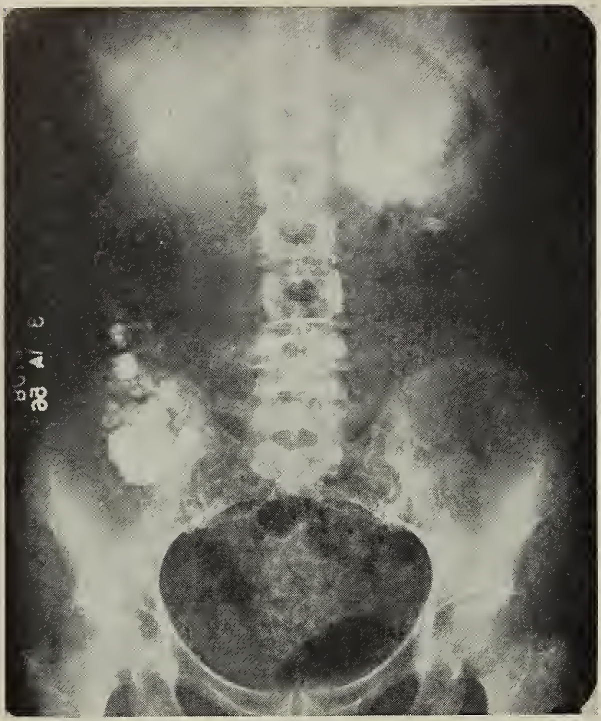

Figure 7 (Case 3).—Kidney-ureter-bladder x-ray film. This demonstrates large and smaller calculi filling the left renal pelvis, and multiple small calculi in a decidedly hydronephrotic right kidney.

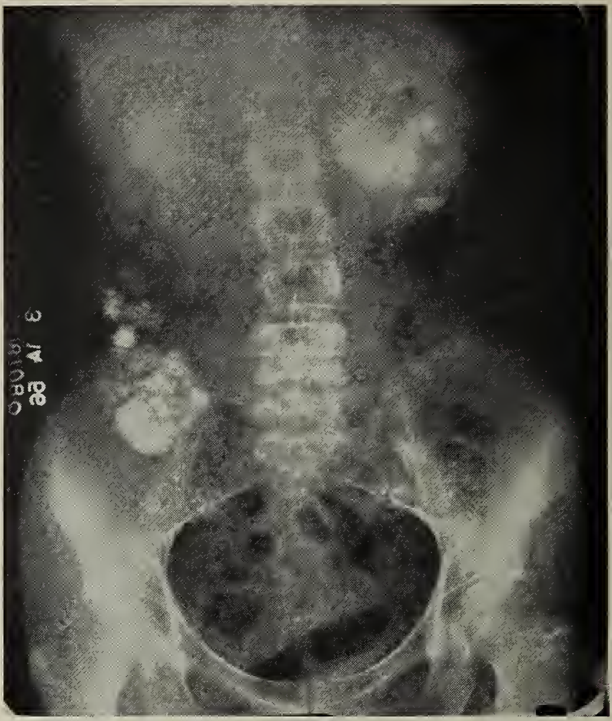

Figure 8 (Case 3).—Intravenous urogram delineates normal upper left calyces, dilated and distorted lower left calyces. There is almost no dye excreted by the right kidney.

years. The nature of her trouble was not discovered during childhood. In 1934 she passed a calculus. More recently a kidney-ureter-bladder x-ray film was made which showed calcified shadows in the region of the right kidney. Pyuria was also demonstrated. An examination in 1950 revealed exophthalmos, a symmetrically enlarged thyroid gland, blood pressure of 180/90 mm. of mercury, evidence of arteriosclerosis and tenderness in the left flank. There were many leukocytes in the urine. Culture of a specimen of urine grew E. coli. The nonprotein nitrogen content of the blood was 26 mg. per 100 cc. The serum calcium was 9.6 mg. per 100 cc. and the phosphorus content 3.6 mg. per 100 cc. Cystoscopy was done and a catheter was passed to the left pelvis, from which 180 cc. of clear urine was drained. On the right a catheter would not enter the pelvis. Retrograde pyelograms were poor but did demonstrate obstructions in both uretero-pelvic regions. It seemed likely that numerous calcified shadows in the right abdomen were calculi in a decidedly hydronephrotic right kidney. A Finney-type pyeloplasty was done on the left side on November 29, 1950. Satisfactory convalescence followed.

On February 15, 1953, the patient was readmitted with myocardial infarction, from which she made a slow but satisfactory recovery. She was then well until March 9, 1956, when she began to have severe pain in the left flank and oliguria. This was followed some hours later by copious output of urine containing much gravel. X-ray studies were obtained which showed a large staghorn calculus occupying the left kidney pelvis and calyces (Figure 7). The stones in the right kidney area were as previously noted. An intravenous pyelogram showed fairly prompt excretion on the left side, outlining dilated calyces (Figure 8). The uretero-pelvic junction was not visualized. At this point I was asked to see the patient. Cystoscopy was carried out and the bladder was observed to be inflamed. The left ureter was catheterized but the catheter would not pass through into the kidney pelvis. A retrograde pyelogram (Figure 9) demonstrated narrowing of the left uretero-pelvic junction. Laboratory studies showed pronounced pyuria. The urine culture showed nonhemolytic streptococci and B. coli sensitive to chloramphenicol, terramycin, aureomycin and tetracycline. The nonprotein-nitrogen content was 24 mg. per 100 cc. of serum. Serum uric acid was 5.9 mg., calcium 9 mg. and phosphorus 3.2 mg. per 100 cc. Urinary calcium excretion in 24 hours was 364 mg., which perhaps was due to the abundance of calcium phosphate shed from the stones into the urine.

It was obvious that, since the right kidney was asymptomatic and almost functionless, operation on the left to remove the calculi and correct the uretero-pelvic obstruction was obligatory. This was carried out on April 11, 1956. At operation the kidney appeared scarred but the cortex was not greatly thinned. An anomalous artery and vein were found crossing the uretero-pelvic junction embedded in scar tissue. The uretero-pelvic junction itself was considerably narrowed. It was obvious that the anomalous vessels had to be divided in order to carry out any type of operation. The stones were

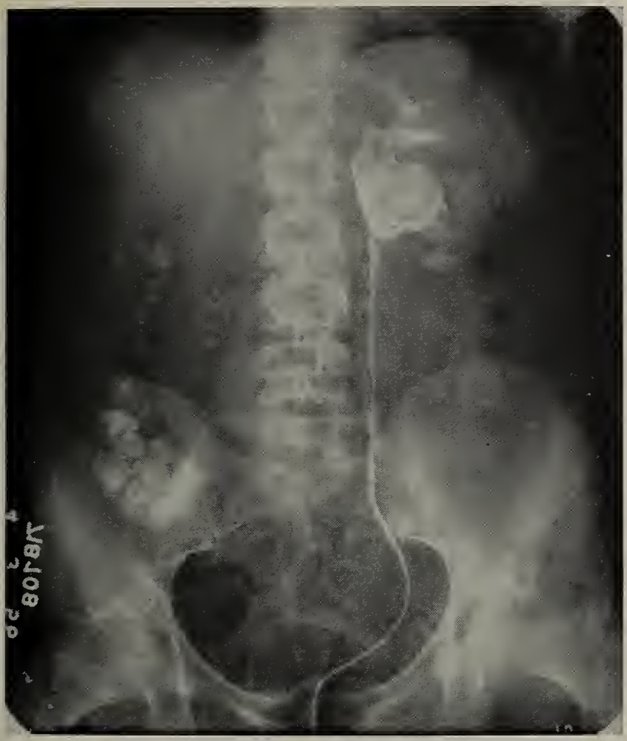

Figure 9 (Case 3).—A left retrograde pyelogram which demonstrates stricture at the left ureteropelvic junction and filling of pelvis and calyces about calculi.

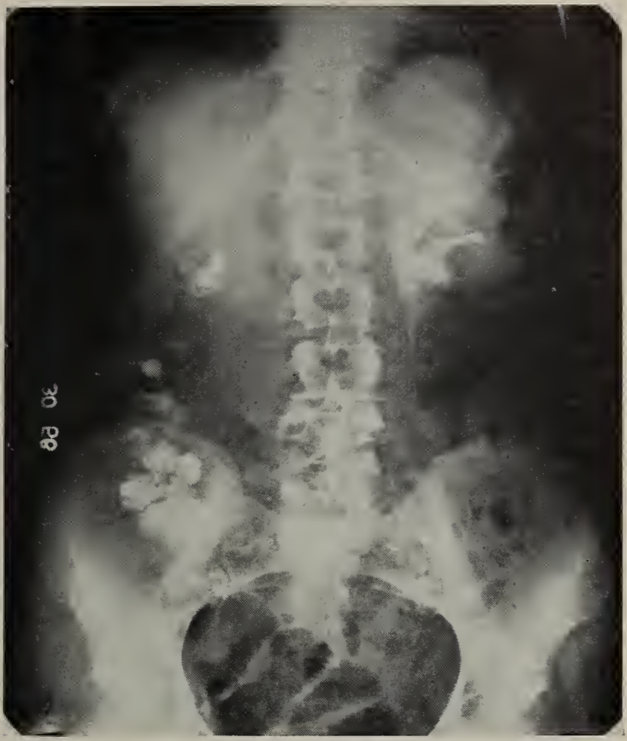

Figure 10 (Case 3).—Intravenous urogram made before discharge of patient, demonstrating good function, diminished hydronephrosis and funneled uretero-pelvic junction.

removed through an anterior pyelotomy and two small nephrotomy incisions. The lower part of the kidney which had been rendered ischemic by division of the anomalous vessels was resected. Correction of the uretero-pelvic junction obstruction was carried out by resecting the area of stricture, excising a portion of the redundant pelvis, and reimplanting the ureter into the pelvis in an oblique fashion—in other words, using the principle of elliptical anastomosis. A splinting latex rubber ureterostomy catheter was placed through the lower infundibulum and down the ureter. The pelvis was drained by a whistle-tip nephrostomy tube passed alongside the ureteral splint.

Convalescence was very satisfactory. During the first 24 hours, 1,500 cc. of urine was collected from the left nephrostomy tube. It was found that when fluid was injected into the nephrostomy tube, it passed quickly to the bladder. The kidney pelvis was irrigated daily, using a continuous drip of solution G* through the nephrostomy tube until April 21, when the tubes were both removed. On this date a kidney-ureter-bladder x-ray film and a pyelogram were obtained by injecting contrast medium through the nephrostomy tube. This revealed no evidence of residual calculi. The pelvis was small and funneled and it drained quickly via the ureter. During this time a daily output of 2,000 cc. was maintained. The patient was given supplementary therapy of acid-ash, low calcium diet and cranberry juice to help acidify the urine, Basaljel (basic aluminum carbonate gel), 30 cc. four times a day, and appropriate antibiotics. Urinary pH charts showed that the urine was maintained at a pH of between 5 and 6. Urinary excretion of calcium before the patient was discharged was 65 mg. and of phosphorus 230 mg. in 24 hours.

An intravenous urogram (Figure 10) showed very satisfactory function of the left kidney with absence of the stones previously noted, a decrease in the degree of hydronephrosis and prompt emptying. The right kidney remained unchanged. Intravenous urograms were repeated in July, 1956, and in March, 1957, and showed no recurrence of stones in the left kidney or evidence of uretero-pelvic junction obstruction (Figures 11 and 12).

The patient was discharged with prescription of a low calcium, acid-ash diet supplemented by cranberry juice and 3,000 cc. of water daily. Three grams of acetylsalicylic acid and 4 ounces of Basaljel a day were also advised. She followed that regimen until the time of this report, except the Basaljel was discontinued after six months because of pronounced constipation. The urine remained infected but specimens contained only a few leukocytes. The patient was asymptomatic. The urinary pH stayed between 5 and 6.

Note: This case illustrates stone formation in relation to obstruction and infection, and shows that careful removal of calculi together with reconstructive operation and a good postoperative pro-

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*Magnesium oxide 15.2 gm., anhydrous sodium carbonate 17.6 gm., citric acid 129.2 gm., distilled water to make 4,000 cc.

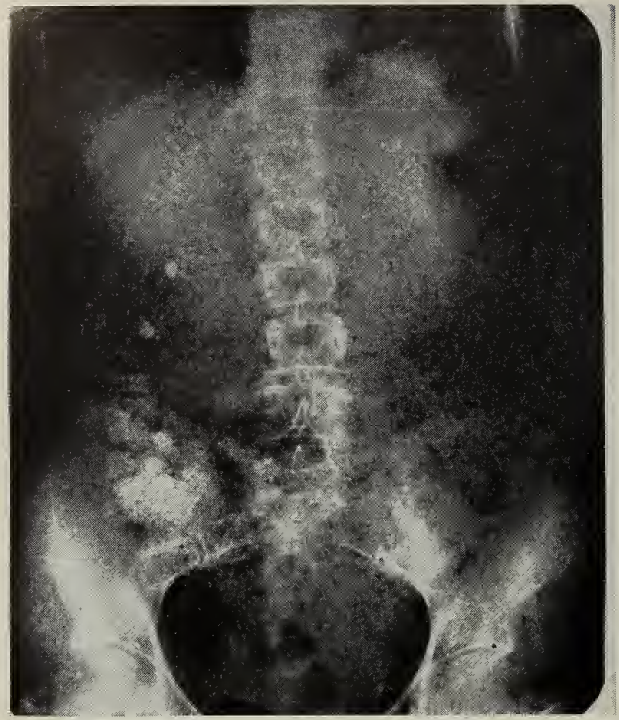

Figure 11 (Case 3).—Kidney-ureter-bladder x-ray film taken after one year. No recurrence of calculi is noted.

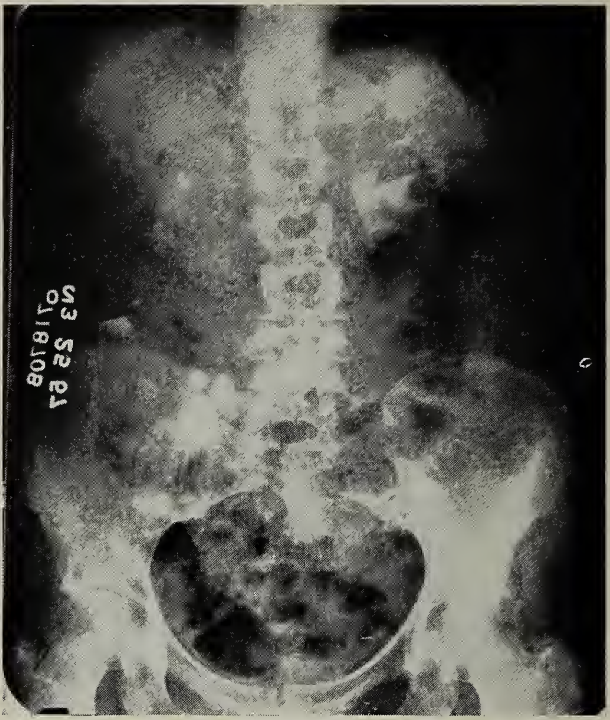

Figure 12 (Case 3).—Intravenous urogram after one year, showing further diminution of left hydronephrosis.

gram of free drainage, fluids, diet and medication have much to offer for cases of this type. It was most fortunate that the patient did not have an active urea-splitting infection to combat as well.

Case 4. A 69-year-old woman was admitted to the Massachusetts General Hospital on November 11, 1956. The history was one of repeated episodes of urinary lithiasis beginning 20 years before when a stone had been removed by cystoscopic manipulation. Eleven years before, the right kidney had been removed because of calculus disease. An impacted left ureteral stone was removed by ureterolithotomy in August, 1956. Up to that time no stone analyses or serum calcium or phosphorus studies had been carried out. During the convalescence from the ureterolithotomy, stones were noted to have recurred in the left kidney. Serum calcium was found to be 12 mg. per cent and the patient was referred to me for study. She had never had a dietary or medical regimen prescribed.

On physical examination the patient appeared to be healthy. The blood pressure was 188/100 mm. of mercury. The thyroid was normal to palpation. Abdominal scars were noted and the left kidney was somewhat tender.

The urine showed a specific gravity of 1.011. It was neutral with 4+ albumin, contained no sugar, but had many leukocytes and erythrocytes. Coliform bacilli not sensitive to any drug except neomycin grew on a culture of urine. Nonprotein nitrogen was 25 mg. per 100 cc., uric acid 6.6 mg., fasting blood sugar 99 mg. and total protein 7 gm. per 100 cc. (albumin 4.2 gm., albumen 2.8 gm.).

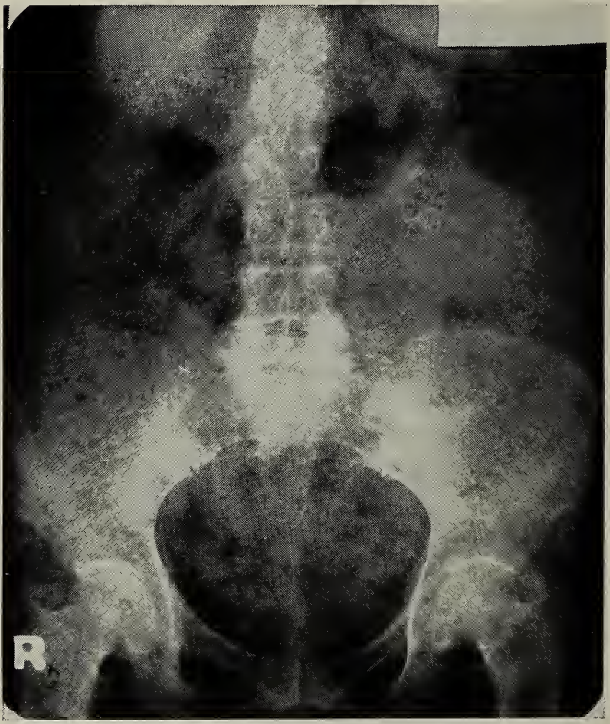

Figure 13 (Case 4).—Kidney-ureter-bladder x-ray film showing recurrent calculi in remaining kidney.

Phenolsulphonphthalein excretion was 15 per cent in a half hour and 43 per cent in two hours. Serum calcium was 12.6 mg. per 100 cc. on one occasion and 12.2 mg. on another. The phosphorus content was 2.2 mg. and 2.8 mg. per 100 cc. Urinary calcium excretion was 197 and 273 mg. in 24 hours.

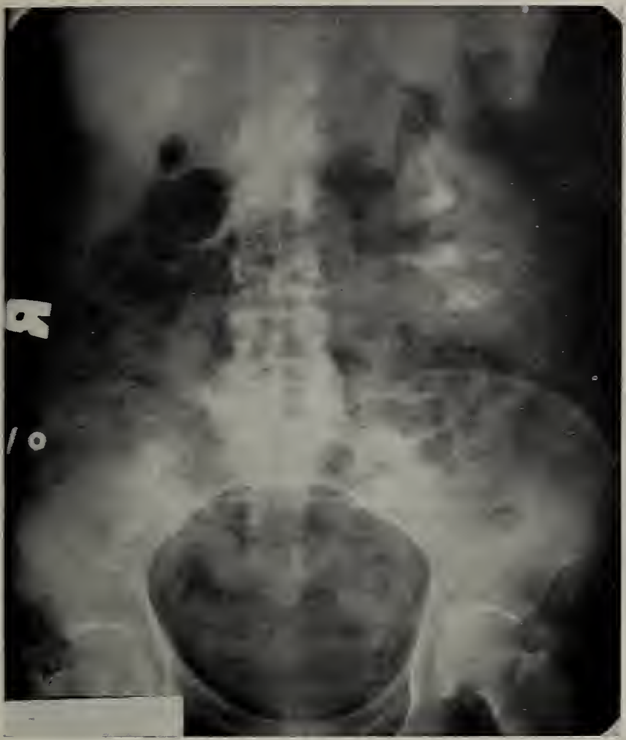

Figure 14 (Case 4).—Intravenous urogram. Obstruction of infundibula by calculi has caused moderate calyectasis.

X-ray films of the chest and bones showed no abnormality. Barium swallow films showed indentation on the right side of the esophagus compatible with parathyroid adenoma. A kidney-ureter-bladder roentgenogram and intravenous urogram which the patient had had in an outside hospital (Figures 13 and 14) showed multiple calculi filling the lower half of a bifid left kidney pelvis with considerable hydronephrosis of the upper half. Seven to ten stones were visualized, the largest being about 2 cm. in diameter. A diagnosis (presumptive) of hyperparathyroidism, renal calculi and chronic pyelonephritis of the remaining kidney was made. The surgical consultant agreed. It was decided to explore for a parathyroid adenoma and subsequently to operate to remove stones from the left kidney. Exploration was carried out December 1, 1956, and an adenoma (pathologically proved) was found within the right lobe of the thyroid. Convalescence was satisfactory. Serum calcium was 7.6 mg. per 100 cc. immediately after operation and later was 8.9 mg., 8 mg. and 9.4 mg. per 100 cc., the last on December 18, 1956. Serum phosphorus on these occasions was 3.6, 3.2, 3.1, 4.2 and 6 mg. per 100 cc. No supplementary calcium was given.

It was felt by the medical consultant that the urinary calculi remaining in the left kidney might disintegrate or pass, but it seemed to me, in view of the solitary kidney, and significant infection, if such occurred, it might be extremely hazardous since it was more than likely that stone fragments would obstruct, necessitating emergency procedures with the likelihood of more renal damage. Therefore, on December 11, 1956, the left kidney was explored.

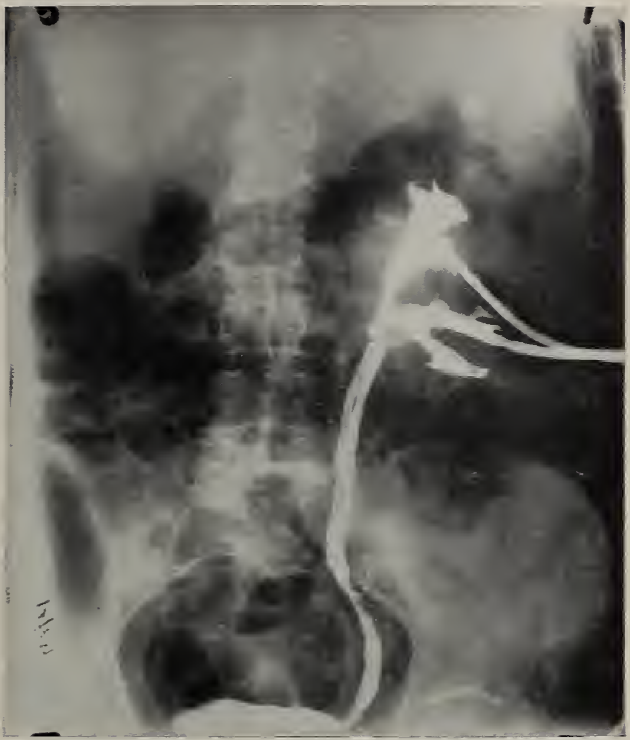

Figure 15 (Case 4).—Pyelogram obtained by injecting nephrostomy tubes illustrates method of splinting uretero-pelvic junction and draining kidney.

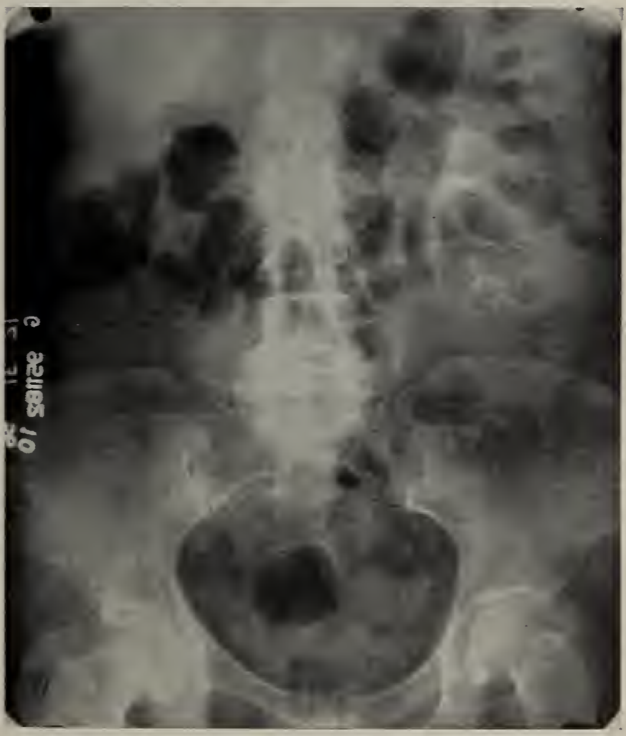

Figure 16 (Case 4).—Intravenous urogram before discharge of patient. This shows prompt function and resolution of hydronephrosis.

It was found that the extrarenal pelvis was very tiny and divided just above the uretero-pelvic junction into upper and lower infundibula which were moderately strictured. The stones were removed by pyelotomy, except for several small calculi in the lower calyces which were removed through a small nephrotomy incision in the lower pole. After all calculi were delivered it was found that the uretero-pelvic junction had been traumatized badly. Therefore two ureteral splinting catheters as well as two nephrostomy tubes were introduced to maintain drainage from both halves of the kidney in the immediate postoperative period. One splint-catheter and one nephrostomy tube were introduced through the nephrotomy incision which had been made previously to remove the calculi, and the other ureterostomy tube and nephrostomy tube were introduced through one of the upper calyces to provide drainage from the upper half of the kidney. The patient tolerated the operation well in spite of the fact that the calyces behind the stones were filled with pus. A pyeloureterogram obtained by injecting contrast medium into the nephrostomy tubes several days later (Figure 15) illustrates the method of drainage. All tubes were removed 16 days after operation when the pelvis was filled with dye and no leakage of it occurred at the uretero-pelvic junction.

An intravenous urogram (Figure 16) was made on December 31, 1956, just before discharge from the hospital, which showed moderately good function and reasonably free drainage. No calculi were visualized. During the postoperative period no special therapeutic measures were used other than the maintenance of a high fluid intake and the use of an acid-ash diet with cranberry juice to help maintain an acid urine. Last reports from the physician who had referred her were that patient was free from urinary complaints. There were no pus cells in the urine and the pH was maintained at from 5.5 to 6. Intravenous urograms showed no calculi or obstruction at the uretero-pelvic junction.

Stone analysis showed ammonium and calcium phosphate and oxalate.

Note: This case illustrates the not uncommon history of patients with renal calculi due to parathyroid adenoma. Repeated colic, often several operations and frequently the loss of one kidney may occur before the diagnosis is made—which suggests that, in the presence of calcium stones, serum calcium and phosphorus studies should always be made.

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Social Security Footnotes

To SUPPORT socialistic practices in regard to retirement funds requires that, for the sake of consistency, socialized medicine also be supported. If one believes that the federal government should tax everyone to provide an income for each upon retirement or disability, one must also believe that the same government should, with equal propriety, tax everyone to provide medical care for all!

—From the Department of Public Relations, American Medical Association

Cerebral Vascular Diseases

Certain Clinical and Electroencephalographic Aspects

RICHARD D. WALTER, *M.D.*, and HARRY FANG, *M.D.*, Los Angeles

• In a preliminary study of 52 patients with cerebral vascular disease, clinical and electroencephalographic evaluations were compared. Most of the patients were in the sixth and seventh decade of life and had had symptoms of cerebral vascular disease for over a year. Seventeen of the patients had clinical evidence of intermittent cerebral ischemia. When routine electroencephalographic techniques were used, 47 per cent of the records were within normal limits. Twenty patients with cerebral vascular disease, eight of whom had clinical cerebral vascular insufficiency, were studied during posturally induced hypotension. No activation was detected in any of these 20 patients. It would appear that other methods of activation, including tilt-table studies, and serial recordings should be further explored and evaluated in these disorders if more clinically useful information is to be gained.

INCREASING INTEREST in cerebral vascular disease has developed in the last several years, owing in part to the trial of newer therapies and the appreciation that many of the clinical problems in these disorders are still unsolved. Electroencephalography has been widely used in neurology, psychiatry and general medicine as a diagnostic aid, and its use has been extended to the study of vascular disease of the cerebrum. The consensus has been that the electroencephalogram has not been particularly helpful clinically in such conditions, most investigators reporting the tracings are within normal limits in 40 to 50 per cent of cases of cerebral vascular disease.[1,2,4,10,12,13] These reports, however, expressed the average, based on routine recordings regardless of the clinical stage of the disease. Some attempts have been made to increase the amount of information from electroencephalographic study by using activating techniques such as sleep, photic stimulation and compression of the carotid artery.[7,9,11] Interest has also grown in the clinical and electroencephalographic features of cerebral vascular insufficiency or transient ischemic attacks. Meyer, Leiderman and Denny-Brown[8] reported on the use of a posturally induced decrease in systemic blood pressure to elicit focal electroencephalographic changes.

The present preliminary report on a long term clinical and electrophysiological study of patients with cerebral vascular diseases is a joint undertaking of the University of California at Los Angeles Medical Center and the Veterans Administration Medical Center, Los Angeles. Routine electroencephalograms were made in all cases and in a smaller group of patients investigations with posturally induced hypotension were carried out.

MATERIALS AND METHODS

Fifty-two patients with a history of cerebral vascular disease who resided at the Domiciliary Home of the Veterans Administration Medical Center were studied. The majority were not in need of hospital care and were ambulatory. Each patient was examined one or more times by one of us (Fang) and a comprehensive medical and neurological history was obtained. The evaluation included a neurological and physical examination, a review of available records, x-ray films of the skull, electrocardiographic and electroencephalographic tracings, blood sugar and cholesterol determination and other selected procedures as indicated. A diagnostic impression of each case was formulated. The routine electroencephalogram included an assay of the major scalp areas both by scalp-to-scalp and scalp-to-ear techniques, along with a period of overbreathing when possible. These records were interpreted without knowledge of the clinical diagnosis of the individual patient.

Twenty patients were selected for study on the tilt-table. Some patients with a history of intermittent ischemic episodes were included in this group. For this study, the patient was placed on a manually operated tilt-table. Electroencephalographic recordings were obtained with a scalp-to-scalp technique and a continous lead 1 electrocardiogram was recorded on one channel. Blood pressure determinations were made frequently and any clinical observations or subjective sensations were recorded. After a control period in the horizontal position, the

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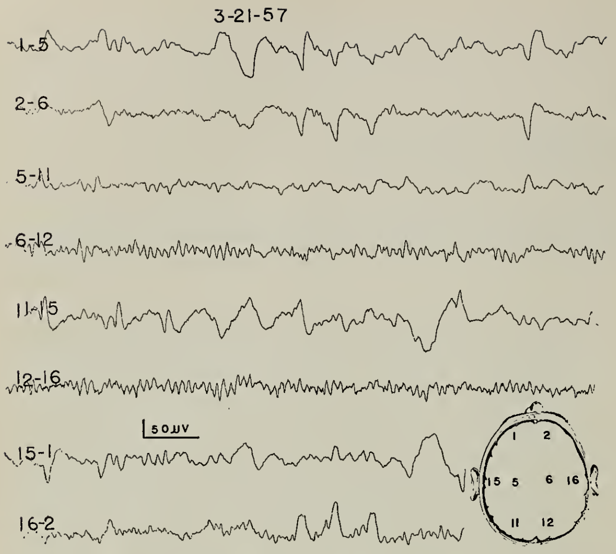

Figure 1.—A sample electroencephalogram demonstrating focal, slow (1 to 3 cycles per second) activity over the posterior aspects of the left hemisphere. (Electrodes 11-15.)

patient was tilted head up to 70 degrees. At least five tilts were done in each case, the first change of position being done gradually over 25 to 30 seconds, then succeeding tilts with increasing rapidity, the last one being within a 5-second period. For each tilt the patient was held at the 70 degree angle for approximately 2 minutes or until a decrease in blood pressure was detected. The patient was then returned to horizontal and several minutes elapsed between each tilt. In one case, opportunity was afforded to make serial routine recordings during the course and development of a thrombosis of the internal carotid artery.

ANALYSIS OF CLINICAL DATA

The age of patients ranged from the fourth to ninth decades of life; the largest group was composed of those in the seventh decade. The mean average age was 62.7 years. All the 52 patients in the study were male veterans. Arterial hypertension was noted in 17 cases. Evidence of inadequacy of peripheral arterial pulsations was present in nearly two-thirds of the cases. Atherosclerosis of the cerebral arteries was then the presumed common etiological factor. Roentgenographic evidence of intracranial calcifications along the course of internal carotid arteries in the cavernous sinus was demonstrable in at least 20 cases. Definitely asymmetrical or unequal carotid pulsations were noted in 13 cases on careful digital palpation along the course of the vessels in the neck. Bilateral, symmetrical reduction in the amplitude of carotid pulsations could be palpated in six instances in the neck. Retinal arteriolar blanching following gentle digital compression of the optic bulb on direct fundoscopy was evoked in six cases. Twelve patients in this study group had had episodes of convulsive seizures, either preceding, during or following the cerebral vascular attacks. Ten persons gave a history of syncopal attacks (with loss of consciousness associated with retrograde amnesia) at the onset of cerebral vascular episodes. The length of time since the first occurrence of vascular lesions in these cases, as determined by the history of symptoms referable to cerebral vascular events, ranged from ten months to 33 years. Three patients had had strokes between ten months to one year before the time of this study, 20 patients two to five years before, 15 patients six to ten years before and nine from 11 to 33 years before. Some of the patients had had but one isolated event with permanent residual effect and others up to five or ten transient episodes with almost complete functional recovery.

ELECTROENCEPHALOGRAPHIC DATA

The routine electroencephalograms were within normal limits in 24 (47 per cent) of the 52 cases, and 28 or 53 per cent were clearly abnormal. Little in the way of subtle or relatively minor abnormalities were noted. Of the 28 abnormal records, 24 showed focal abnormalities consisting of slow 1 to 3 cycles per second (cps) or 4 to 9 cps activity. No spiking activity was observed. Two of the abnormal records were diffusely slow and two records showed paroxysmal activity. The majority of the focal records consisted of slowing over the anterior portions of the hemisphere; four had lateralized slowing and three showed slow wave activity over the posterior aspects of the hemisphere. The typical electroencephalographic findings are shown in Figure 1.

The following is a report of the electroencephalographic changes that were observed during the course of a thrombosis of the internal carotid artery:

Case 1. A 49-year-old man was admitted to the hospital with history of intermittent weakness and loss of control of the right arm for about ten days. On the day before admission, transient periods of aphasia and some parasthesia of the right hand had developed.

Upon examination, in addition to the mild weakness of the right hand, he was found to have diminished carotid pulsation on the left. Figure 2 is a section of the electroencephalogram on the day of admission, showing mild focal changes with 5 to 7 cps activity over the anterior temporal and frontal regions on the left. An arteriogram was performed to evaluate the left carotid system. However, before the procedure was carried out it was noted that the patient was aphasic and had profound hemiplegia on the right. The arteriogram showed an obstruction at the origin of the left internal carotid artery. An

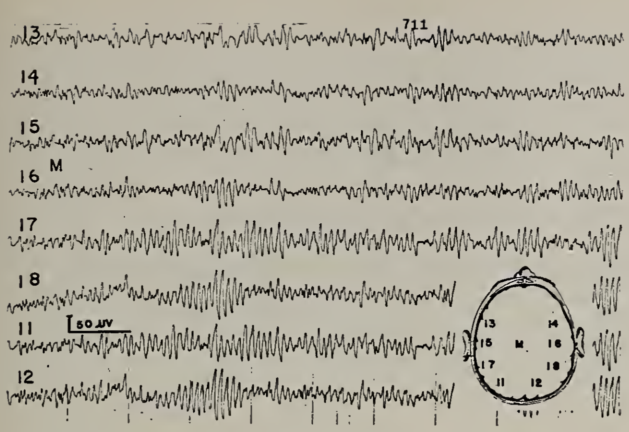

Figure 2.—A very slight irregularity and some rare, slow (5 to 7 cycles per second) activity is present over the temporal region on the left. (Electrodes 13 and 15.)

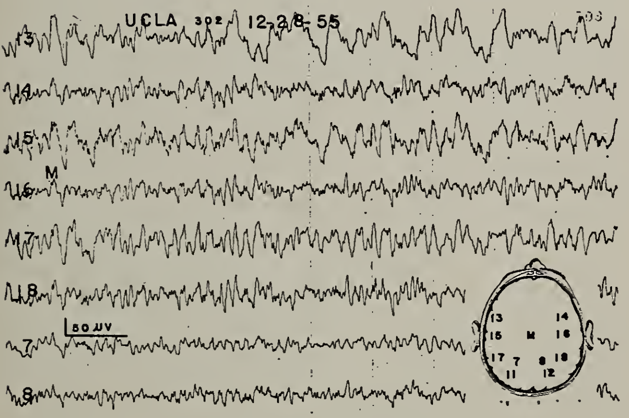

Figure 3.—There is a prominent, slow wave focus of 1 to 3 cycles per second waves over the left temporal region. (Electrodes 13 and 15.)

emblectomy was done and an old thrombosis with a more recent extension was found. A slight retrograde flow was obtained. Subsequent electroencephalograms demonstrated the persistence of focal and generalized slowing (Figure 3). When examined three months later, the patient had only slight improvement of aphasia.

CORRELATION OF CLINICAL AND ELECTROENCEPHALOGRAPHIC DATA

Although 12 patients had definite convulsive phenomena clinically, only two records were paroxysmal in type. Ten patients also had syncopal attacks. This lack of agreement between clinical convulsive episode and the electroencephalogram is somewhat higher than that encountered in patients with convulsive disorder without cerebral vascular disease. Schwab[10] also noted this poor correlation on routine studies of patients with cerebral vascular disease and recommended the use of serial recordings and of activation techniques.

As to which side was affected by the lesion, clinical findings and electroencephalographic abnormality were in agreement in all but two of the cases in which electrical abnormality was shown. In these two, clinical signs were bilateral. All of the patients with intermittent ischemic episodes had normal routine electroencephalograms (which emphasizes the need for a suitable activating technique). Of the two patients with clinically diagnosed basilar insufficiency, one had a normal encephalographic tracing and the other had a tracing demonstrating anterior focal abnormality. Fifteen patients had one or both signs compatible with involvement of the carotid system. They had either a blanching of the retinal arteries on digital compression or diminished or absent pulsation of the carotid arteries on one or both sides. Eight of these patients had electroencephalographic demonstration of focal abnormality.

Seventeen patients had hypertension and six of the 17 had normal electroencephalograms while 11 had abnormal tracings. One tracing was diffusely slow, two had generalized slowing with paroxysmal features, three had both focal abnormality and diffuse slowing, and five exhibited focal slowing. This would seem to indicate a fairly high degree of electrical abnormality associated with hypertension and cerebral vascular disease.

RESULTS OF TILT-TABLE STUDIES

The results of the tilt-table studies—done in 20 cases—were not particularly revealing. Patients with normal electroencephalographic records in the horizontal position did not have abnormal tracings when the 70 degree tilt was carried out. In patients with abnormal records in the horizontal position, neither increase in over-all slowing nor extension of a focus was noted when the tilting studies were done. Figure 4 illustrates a normal electrical pattern before, during and after the tilt. Blood pressure changes were noted in nearly every case when the tilting was done, the maximum decrease being 56 mm. (mercury) systolic and 20 mm. diastolic, although the average decrease was considerably less. Several patients described dizziness during the tilting procedure but there was no concomitant electrical change. In this group of 20 patients, two had basilar-vertebral disease, one had bilateral carotid disease, one had combined carotid and basilar insufficiency, and four had unilateral carotid disease. The remaining twelve were classified as having infarctions—one or more—of more fixed or chronic type. The following case is presented as an example of insufficiency of the basilar-vertebral type.

Case 2. A 46-year-old former policeman gave a history of suddenly having a pulling sensation of the hair over the scalp while he was lying down to rest. He promptly lost consciousness and knew nothing of events of the next 11 days. Upon exam-

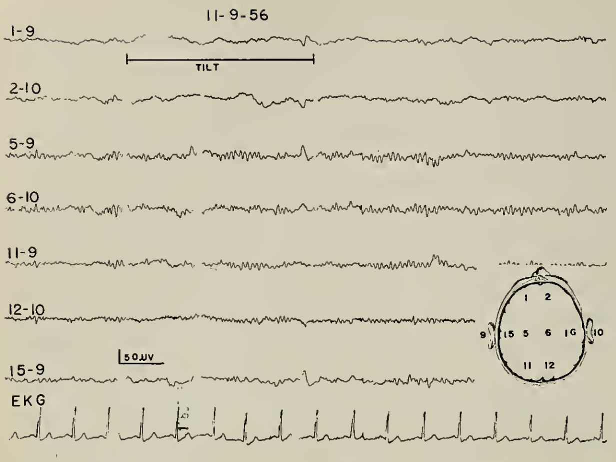

Figure 4.—An electroencephalogram recorded during the tilting procedure with simultaneous lead 1 electrocardiogram on the last channel. There are no decided abnormalities in the record.

ination, weakness on the left side and numbness involving the right side of the body were noted. He was put in a hospital in Michigan for nine months and recovered. Some three months before the episode of unconsciousness he had had transient blurring of vision lasting for 45 minutes as well as a tingling sensation over the left little finger. He said that after recovery from the period of unconsciousness he had noted similar tingling sensations now and again involving all four fingers of the right hand. Upon examination, a moderate degree of emotional lability was noted. Also observed were jerky conjugate sweep movements of the eyes, hemi-anesthesia and analgesia over the left half of the face, a deviation of the palate to the right, left central facial weakness, weakness of the left masseter muscle, spastic left hemiplegia, hyperactive deep tendon reflexes on the left, a left extensor plantar response and left hemi-analgesia and hypoesthesia.

The following is a short report of a case of internal carotid artery disease.

Case 3. The patient, a 52-year-old man, had a series of cerebral vascular episodes involving the right side of the body over a five-year period. While having dinner, he was suddenly unable to hold his cup with his right hand. In the course of a few minutes, he became totally paralyzed on the right side of his body without any alteration in awareness. He was also unable to speak, and he noticed numbness over the right extremities. Six weeks later the ability to speak returned and strength was restored to the right leg and right arm. A year later, without warning, the right-sided weakness returned but without disturbance of speech. Again considerable improvement occurred over a few weeks. Some three years after the first episode, the patient woke with complete right-sided paralysis and global aphasia. Numbness over the entire right half of the body returned. At that time the patient had had hypertension for about ten years.

Upon examination, a reduction in carotid pulsation on the left side of the neck was noted. Digital compression over the optic bulb on the left brought about immediate blanching of the retinal arterioles as observed on direct fundoscopy, but not on the right side. Other abnormalities were a low-pitched, slurred speech, slight impairment of recall for remote events, right central facial weakness, residual spastic right hemiparesis, hyperactive deep tendon reflexes most pronounced on the right, with a right extensor plantar response. There was no objective evidence of sensory loss.

DISCUSSION

Although in this group of patients there was considerable variation as to the site and degree of involvement as well as the duration of the illness, there was a great predominance of patients in whom the cerebral vascular disease was of more than a year's duration. The chronic nature of the illness in these patients should be considered in the interpretation of the results of the study. The electroencephalographic findings on routine examination are in keeping with those reported by other investigators. In most reported series, electroencephalographic abnormalities in between 40 and 50 per cent of cases of cerebral vascular disease was noted, but most series include more acute material. There is a high degree of agreement, as might be expected, between the electroencephalographic and the clinical evidence as to which side of the brain is involved. Yet nearly 50 per cent of the routine records in cases of known cerebral vascular disease are within normal limits. The factors involved in the production of electrical abnormality are probably the site of the disease, the vessel involved, the depth of the lesion, the degree of occlusion, the extent of the colateral circulation and the stage of the process. Some of these factors have been investigated in experimental work with animals, but in the area of clinical practice many details are lacking. Factors opposing the detection of electrical abnormality probably include the inability to explore nearly 80 per cent of the cortex, the intermittent nature of abnormality (it may be missed on one examination), and a lack of gradation between normal and abnormal cerebral tissue. Dead neurons do not produce electrical activity.

Meyer and co-workers[8] reported the appearance of focal slowing over the posterior scalp areas in cases of insufficiency of basilar-vertebral type and central focal slowing in carotid insufficiency. Although the series herein reported on contained eight patients who clinically appeared to have intermittent cerebral ischemia, no electrical abnormalities were activated. Even so, it would appear too early to abandon the use of this technique for the study of cerebral vascular insufficiency. From this preliminary study it would appear that other methods of activation might be explored, as well as the use of serial recordings for the detection of electrical abnormality in some cases of cerebral vascular disease.

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Hyperthyroidism

Diagnosis by Failure of Triiodothyronine to Suppress Uptake of Iodine ^{131}

LEO SMOLLAR, *M.D.*, San Diego

• Sixty patients with abnormally high I^{131} uptake were treated with liothyronine (L-triiodothyronine) for seven or eight days and then tested again. Fifty-five patients showed a suppression of iodine uptake sufficient to eliminate the possibility of hyperthyroidism. Also the therapeutic trial of liothyronine indicated whether they were euthyroid, or hypothyroid with iodine deficiency. Six of the patients showed insignificant change in the I^{131} uptake after treatment with thyroid hormone—that is, the change from the original uptake was less than 30 per cent. These six patients were later confirmed to be hyperthyroid. In four patients the uptake at the second test was less by between 35 and 52 per cent than at the first. These four patients, like the remainder with even greater suppression in thyroid uptake, remained clinically euthyroid.

The repeat I^{131} uptake test was thus seen to be considerably more accurate than the single test and well worth the time required to perform it.

THE I^{131} (radioactive iodine) uptake test measures the amount of iodine taken up by the thyroid gland and thus is also a measure of thyroid activity. The I^{131} test is uncomplicated: A known amount of radioactive iodine is ingested by the patient and the amount taken up by the thyroid gland is measured by means of a scintillation counter. Abnormal uptake is an indication of thyroidal disorders. Werner,[4] Perlmutter,[3] and McConahey and Owen,[2] among others, have suggested, however, that the diagnostic value of the test can be increased if it is repeated after the patient has received the thyroid hormone.

The principle of the uptake depression test is that the normal thyroid gland is inhibited by the thyroid hormone, while the hyperactive gland is affected only slightly or not at all. Perlmutter[3] reported that "a decrease of more than 30 per cent of the initial iodine uptake following the ingestion of thyroid hormone is almost universally indicative of the

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TABLE 1.—*Response of Hyperthyroid Patients to I^{131} Uptake Tests*

Case No.*	Age and Sex		Uptake (Per Cent) Before Liothyronine		Uptake After Liothyronine			
			In 6 Hr.	In 24 Hr.	In 6 Hr. (Per Cent of Dose)	Per Cent Change From First Test	In 24 Hr. (Per Cent of Dose)	Per Cent Change From First Test
6	51	M	31	68	49	+63	70	+ 3
11	44	F	30	42	28	— 7	40	— 5
15	42	F	30	46	32	+ 7	48	+ 4
16†	24	F	22	33	18	—18	25	—24
47	55	F	79	88	69	—13	85	— 3
60	68	M	47	65	48	+ 2	68	+ 5

*Numbering of cases agrees with numbers in Table 3.

†This patient is listed here although the original uptake was not clearly in hyperthyroid range. Thyroidectomy had been done three years before. Symptoms had recurred and a scintigram indicated about eight grams of functional thyroid. Uptake of I^{131} was suppressed only 24 per cent. She responded satisfactorily to I^{131} therapy.

TABLE 2.—*Response of "Doubtful" Patients to I^{131} Uptake Test*

Case No.*	Age and Sex		Uptake (Per Cent of Dose) Before Liothyronine		Uptake (Per Cent of Dose) After Liothyronine			Per Cent Change From First Test
			In 6 Hr.	In 24 Hr.	In 6 Hr.	Change (Per Cent)	In 24 Hr.	
13	26	M	25	45	17	—32	26	—42
17	18	F	28	46	16	—45	29	—37
54	19	F	48	64	18	—62	31	—52
55	54	F	34	60	20	—41	35	—42

*Numbering of cases agrees with numbers in Table 3.

euthyroid state." Such a change occurred in 95 per cent of euthyroid patients and in only 3 per cent of hyperthyroid patients examined by him.

This presentation deals with a study that was carried out to evaluate the uptake depression test of thyroid activity in order to determine the general usefulness of the test and whether it is sufficiently accurate to justify the time and effort it demands.

TABLE 3.—*Response of 61 Patients with Abnormally High Uptake of I^{131} to Second I^{131} Test*

			Per Cent of Dose of I^{131} Taken Up				Reduction of 24 Hr. Uptake (Per Cent)	Protein-Bound Iodine After Thyroid Hormone (Micrograms per 100 cc.)
			Before Liothyronine		After Liothyronine			
Case No.	Age and Sex		In 6 Hr.	In 24 Hr.	In 6 Hr.	In 24 Hr.		
1	41	F	30	40	8	7	82	5.5
2	26	F	25	43	3	3	93	5.9
3	23	F	26	39	6	3	92	8.1
4	40	F	28	42	11	10	76	5.1
5	33	F	27	44	11	12	73	4.4
6	51	M	31	68	49	70	No depression	9.0*
7	33	F	29	49	10	10	80	5.6
8	20	F	23	38	7	6	84	5.5
9	32	F	57	69	10	10	86	6.3
10	34	F	28	43	7	5	88	5.1
11	44	F	30	42	28	40	5	9.0*
12	23	F	20	44	14	12	73	5.7
13	26	M	25	45	17	26	42	6.4
14	60	F	21	50	8	7	86	6.0
15	42	F	30	46	32	48	No depression	6.0*
16	24	F	22	33	18	25	24	....*
17	18	F	28	46	16	29	37	7.1
18	55	F	35	55	8	8	85	7.1
19	34	F	26	44	6	4	91	6.0
20	30	F	42	49	9	12	76	....
21	19	F	26	43	7	8	81	....
22	13	F	31	45	12	11	75	5.4
23	17	F	25	47	6	8	83	6.1
24	60	F	37	55	4	6	89	5.6
25	68	F	30	47	6	8	83	....
26	36	F	31	51	7	3	94	....
27	58	F	26	44	6	8	82	....
28	30	F	22	41	8	15	63	5.7
29	33	F	25	56	4	3	95	5.3
30	41	F	36	50	7	9	82	5.5
31	35	F	22	40	5	3	93	4.9
32	26	F	31	45	7	6	87	6.3
33	30	F	24	40	9	8	80	6.3
34	34	F	33	51	9	11	78	5.1
35	26	F	26	41	5	3	93	5.0
36	40	F	26	51	11	12	76	5.8
37	17	F	21	45	6	6	87	....
38	53	M	21	46	8	7	85	....
39	45	F	36	52	4	4	92	....
40	32	F	26	47	6	5	90	6.1
41	46	M	47	67	4	3	55	....
42	50	F	21	42	10	9	79	6.0
43	31	F	25	39	5	5	87	....
44	44	F	33	55	8	10	82	6.1
45	25	F	39	66	9	14	79	....
46	17	F	29	44	6	10	77	....
47	55	F	79	88	69	85	3	....*
48	26	F	30	53	4	3	43	7.4
49	30	F	27	52	4	3	42	5.2
50	44	F	31	52	7	7	87	5.2
51	33	F	40	58	14	15	74	4.3
52	28	F	30	46	16	22	52	5.5
53	47	F	37	51	9	8	84	5.7
54	19	F	48	64	18	31	52	....
55	54	F	34	60	20	35	41	....
56	41	F	36	57	17	28	51	....
57	36	F	25	42	12	13	69	....
58	43	F	36	49	8	7	86	5.5
59	30	F	27	48	10	10	79	7.4
60	68	M	47	65	48	69	No depression	7.1*
61	55	F	25	43	10	12	72	5.0

*Hyperthyroid patient.

Of 518 men and women tested for thyroidal disorders, 96 patients (18.5 per cent) were found to have abnormally high uptake of I^{131}. Sixty of these patients were given a second I^{131} uptake test after they had taken 75 micrograms of liothyronine (L-triiodothyronine) daily for seven or eight days. Liothyronine was used in preference to desiccated thyroid or thyroxin because it acts more promptly. Desiccated thyroid would have had to be given for two or three weeks.

Before the second test each patient was carefully examined for signs of symptomatic improvement and for possible side effects to medication. Usually protein-bound iodine determination was done.

RESULTS

Of the 60 patients with high uptake of I^{131} who were given liothyronine, 51 showed decided decrease in uptake (at the second test it was less than 30 per cent of the original level). Clinical course and further laboratory studies confirmed that none of the subjects were hyperthyroid.

In four patients, the uptake at the second test was between 48 per cent and 70 per cent of the original level. These were classified as "doubtful," but later clinical course proved them all euthyroid.

The remaining five patients (Table 1) showed either an increase in uptake or suppression of less than 30 per cent, and were therefore considered hyperthyroid. The protein-bound iodine was high in two of these patients, not high in two and not done in one. Subsequent observation, together with the response to therapy, confirmed the diagnosis of hyperthyroidism in all five.

One of the four patients classified as "doubtful" (suppression of uptake was less than 52 per cent but more than 30 per cent) was a teenage girl with a diffuse goiter of about 40 grams which gradually disappeared under therapy with 75 micrograms of liothyronine daily. This is patient No. 3 on Table 2. The four "doubtful" patients are now considered euthyroid after a year's observation.

The diagnosis of hyperthyroidism from observation of a high uptake of I^{131} by the thyroid gland is rendered considerably more accurate by a demonstration that the uptake is not depressed more than 30 per cent by the taking of 75 micrograms of liothyronine a day for eight days. Hypothyroidism that is masked by a high uptake of I^{131} may also be brought to light by giving this drug, for it relieves the patient's symptoms. The greater reliability reduces the need for additional laboratory studies to confirm the diagnosis and decreases the possibility that antithyroid therapy will be given unnecessarily.

The repeat I^{131} uptake test has still another advantage: The interval of administration of thyroid hormone permits the physician to distinguish between patients who have hypothyroidism with a high uptake of I^{131} and those who are hyperthyroid or euthyroid. If, for example, a patient has an iodine deficiency goiter with hypothyroidism, a trial with liothyronine will suppress the high I^{131} uptake and will usually make him feel much better. The decrease in I^{131} uptake distinguishes him from hyperthyroid patients, while the clinical improvement sets him apart from euthyroid persons, who rarely feel any effect when given liothyronine.

All things considered, the only disadvantage to doing a second I^{131} uptake test after an interval of administration of thyroid hormone is that it adds to the diagnostic time.

Table 3 shows the results of the double I^{131} uptake tests on all 61 patients.

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Dysfunctional Uterine Bleeding

The Relationship of Microscopic Observations to Treatment

RICHARD L. TAW, *M.D.*, Los Angeles

• Dysfunctional bleeding is not an entity, it is a symptom. With proper history, physical examination and laboratory aids a definitive diagnosis can be made. With this diagnosis rational and direct treatment may be instituted. Both diagnosis and treatment are outlined and discussed. When hormonal treatment is indicated, the type, amount and timing must be fitted to the patient's needs.

THERE ARE SEVERAL DEFINITIONS of dysfunctional uterine bleeding but the one that is used in the clinic in which the author practices is: Bleeding from the uterine mucosa due to malfunction of the normal menstrual mechanism. This is preferred because it indicates a positive approach to the problem rather than one of exclusion. Since this definition includes difficulties that originate in the hypothalamus, pituitary, ovary and endometrium, it may be too inclusive for some readers, but there is some rationale for it from a therapeutic standpoint.

The ideas that are expressed here come mainly from a dysfunctional bleeding clinic that is operated as a division of the Gynecological Service of the Los Angeles County General Hospital. Patients are referred to this clinic from either the outpatient or inpatient services. Before reaching the clinic, each patient has a complete general history and physical examination as well as a gynecological history and pelvic examination, routine urinalysis, blood cell count and screening procedure for cancer of the cervix. In addition, each must have had a dilatation and curettage of the uterus including use of a polyp forcep. The protein-bound iodine determinations are ordered through our clinic, since this involves a separate study that is being conducted regarding the relationship of thyroid function to dysfunctional bleeding. The microscopic slides of pathological material for each patient visit are available in the clinic.

From the information obtained from the history, physical examination, laboratory and microscopic slides each patient is put into a category according to the classification shown in the adjoining column.

DISCUSSION

It has long been recognized that pituitary dysfunction is often the reason for menometrorrhagia. It may be the cause of any of the group listed under *Ovarian* in the foregoing classification. However, from a practical standpoint, this is ignored for two reasons: First, the bio-assay for gonadotropins is not sufficiently accurate except in gross abnormalities. Second, there are no products available to the clinician either to stimulate the pituitary or to adequately substitute with exogenous gonadotropins. Hence, cases in which we are certain bleeding is of pituitary origin are dealt with as if the ovary were at fault.

It is well established that anovulation is a cause of uterine bleeding, and endometrial hyperplasia is a familiar syndrome. However, hypoplasia also may be associated with this condition. Complete hypoplasia produces atrophy and amenorrhea but if (a) the amount of estrogen produced by the ovary is insufficient or (b) the ability of the endometrium to respond is reduced, hypoplasia will occur. The dividing line between hypoplasia and hyperplasia is not clear; one merges into the other, depending upon the amount of estrogen and the ability of the endometrium to respond. The microscopic features of gradual progression from hypoplasia to hyperplasia are shown in Figures 3, 4, 5, 6 and 7.

Classification of Cases of Dysfunctional Uterine Bleeding

I. Hormonal
    A. Pituitary
    B. Ovarian
        1. Anovulatory
            (a) Hyperplasia
            (b) Hypoplasia
        2. Ovulatory
            (a) Corpus luteum irregularities
            (b) Hyperplasia
            (c) Hypoplasia
II. Endometrial
    A. Hyalinization
    B. No change.

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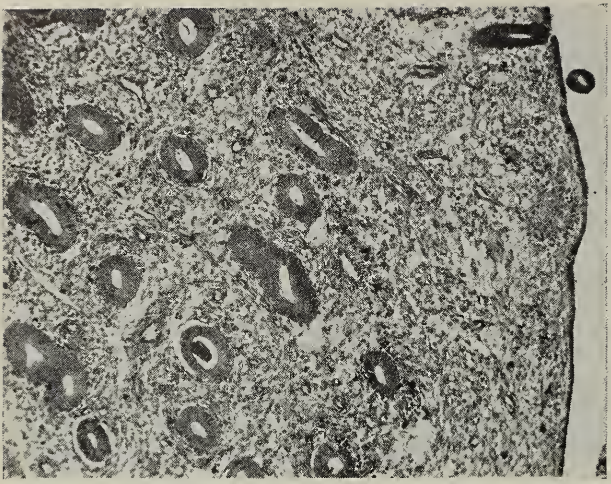

Figure 1.—Biopsy on seventh day of cycle, showing normal proliferative endometrium. Note uniformity of glands, stroma and blood vessels (×125).

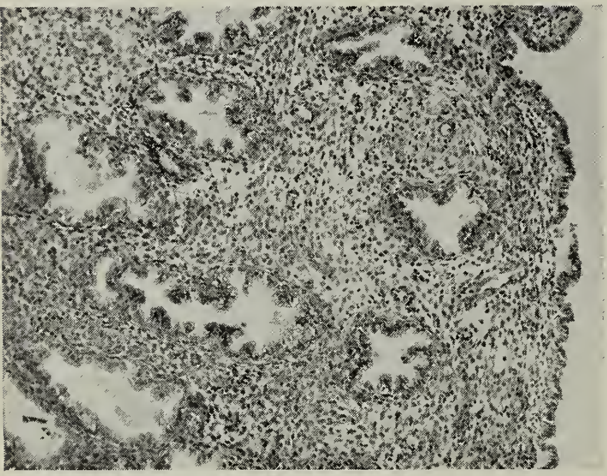

Figure 2.—Normal secretory endometrium, twenty-seventh day of cycle (×125).

Therapeutically, a woman who has anovulatory bleeding is not cured until she begins to ovulate, although the bleeding may be controlled by use of exogenous ovarian steroids. Cyclic therapy is usually used and there are several good methods. The object is to control the bleeding and to simulate a normal cycle. If the patient has had a cycle, it seems best to fit the artificial cycle to the patient's cycle. Assuming a 28-day cycle, our method is to give estrogen for 25 days and progesterone for the last 10 of the 25 days. Bleeding will usually start about the twenty-eighth day. We prefer stilbestrol because of factors of familiarity, cost, potency and wide variation in size of tablet available. We have not found a satisfactory progesterone product. The long-acting substances often produce a situation like irregular shedding, and the absorption from linguets is variable. The present practice is to use linguets if small amounts are needed and parenteral administration for large amounts.

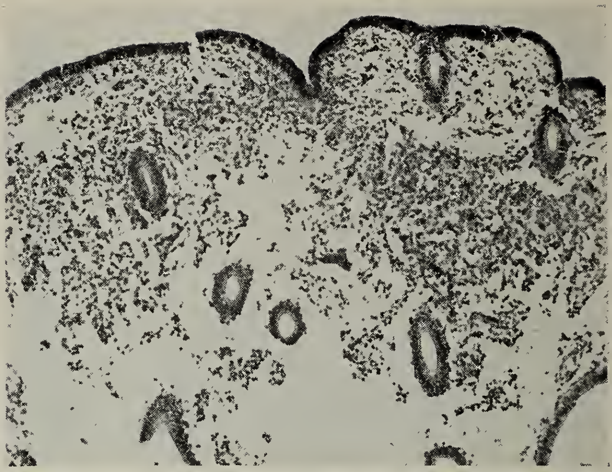

Figure 3.—Anovulatory hypoplasia, nearly atrophic endometrium. Patient had had bleeding for three weeks at time of dilatation and curettage (×125).

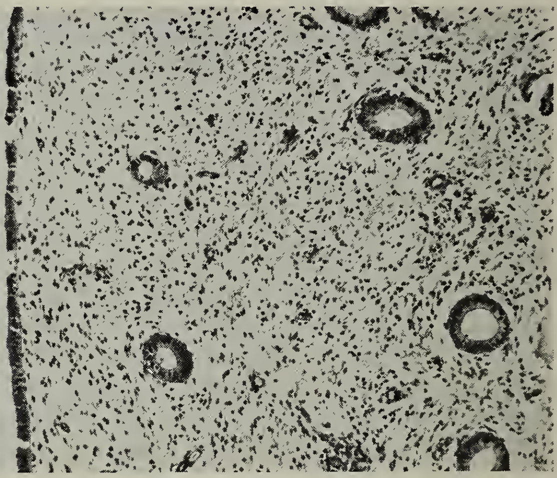

Figure 4.—Anovulatory hypoplasia. More response in stroma than in specimen shown in Figure 3, but little gland activity. Patient had had continuous bleeding for ten days at the time of curettage (×125).

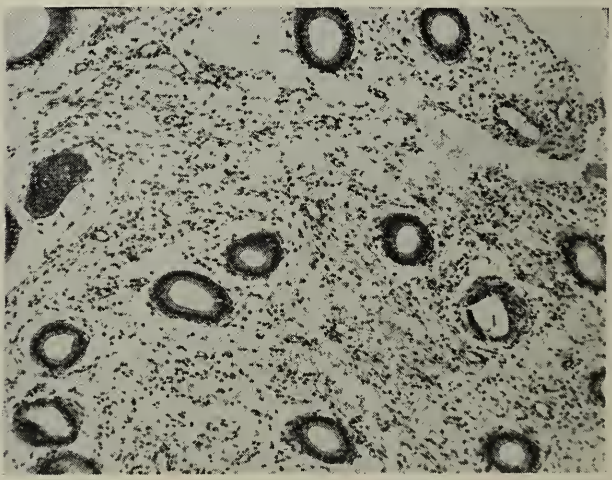

Figure 5.—Anovulatory hypoplasia. The stroma is thin but the cells lining the glands are tall and the glands are more numerous and larger than in Figure 4. Specimen was taken at time of dilatation and curettage on thirteenth day of bleeding (×125).

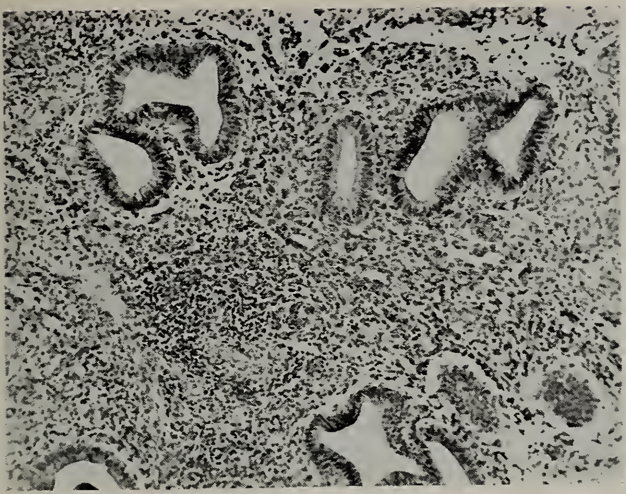

Figure 6.—Early anovulatory hyperplasia. Specimen taken at dilatation and curettage on seventh day of moderate bleeding. The stroma is dense, the glands active with variation in size and shape (×125).

A patient with endometrial hyperplasia has too much estrogen as far as the endometrium is concerned. However, since estrogen is normally withdrawn, we give 1 to 3 mg. of stilbestrol daily for 25 days and 30 to 50 mg. of progesterone in the form of linguets from the fifteenth to the twenty-fifth day. This routine is repeated, starting on the second day of menses, for three cycles, the results being followed on basal temperature graphs. Use of hormones is then stopped to see what the effect will be without them. There is no limit to the number of times the process may be repeated. We have treated patients who had pregnancies after as much as six years of such a regimen.

As to dealing with endometrial hypoplasia, the amount of hormone given depends entirely upon the patient's need. Daily doses of 50 to 100 mg. of stilbestrol are not unusual and as much as 500 mg. has been used. Whatever the patient needs is given cyclically (just as for patients with hyperplasia) for two cycles and the amount given is then reduced each cycle until the minimum amount that will control the endometrium is reached. Progesterone is then added. We believe that in such cases the endometrium loses its ability to respond properly to estrogen but will regain it under regular, controlled cyclic stimulation. For instance, a patient who required 500 mg. of stilbestrol daily eventually responded better (as judged by endometrial biopsy) to 5 mg. daily. The progesterone response follows the same pattern, and that is the reason for withholding this hormone until responsiveness of the endometrium has been obtained. Hence, as in the use of desiccated thyroid, insulin or cortisone, the amount of ovarian steroid depends upon the patient response.

One important part of the treatment is continuous observation. When treatment is started, almost daily information is necessary.

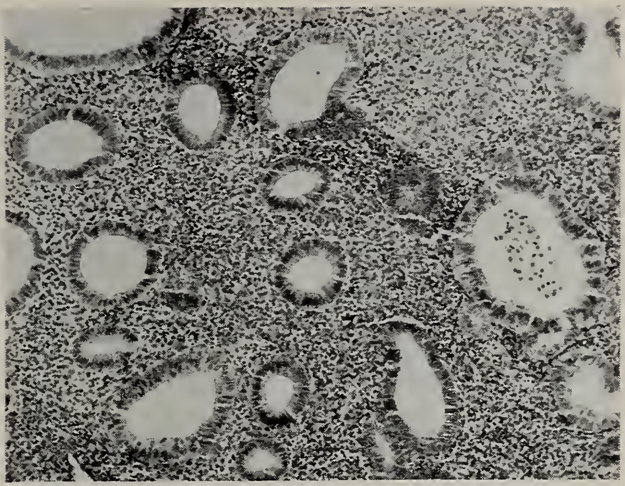

Figure 7.—Typical pattern of endometrial hyperplasia. Specimen taken at dilatation and curettage on twentieth day of bleeding (×125).

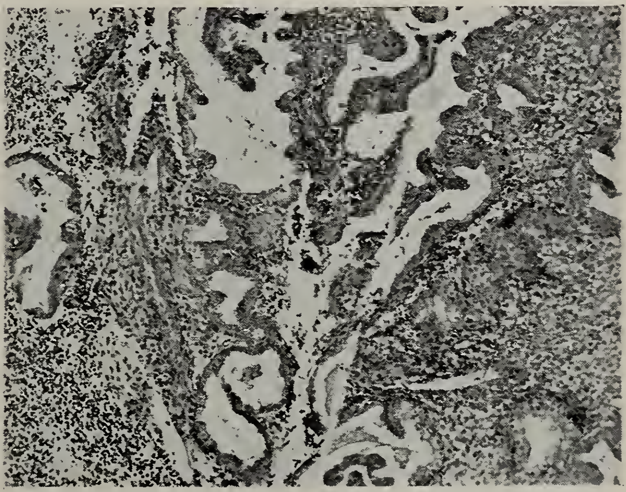

Figure 8.—Unshed secretory endometrium with irregular shedding. Specimen from curettage on fifth day of bleeding (×125).

That irregular shedding may cause menorrhagia has been well documented. In the normal menstrual mechanism, all the secretory endometrium is shed by the end of the third day of the period; hence the presence of any secretory endometrium beyond this time is, by definition, due to irregular shedding. For diagnosis, the dilatation and curettage is usually done on the fifth day (Figure 8). The curettage will usually take care of this condition. If it does not, we suppress the pituitary with stilbestrol for three cycles, using the basal temperature graph to prove suppression. The amount of stilbestrol necessary to do this will vary from patient to patient (usually it is between 3 and 15 mg. daily). Premature failure of the corpus luteum is manifest by early menses and is usually of no great importance.

True secretory hyperplasia is a rare condition.

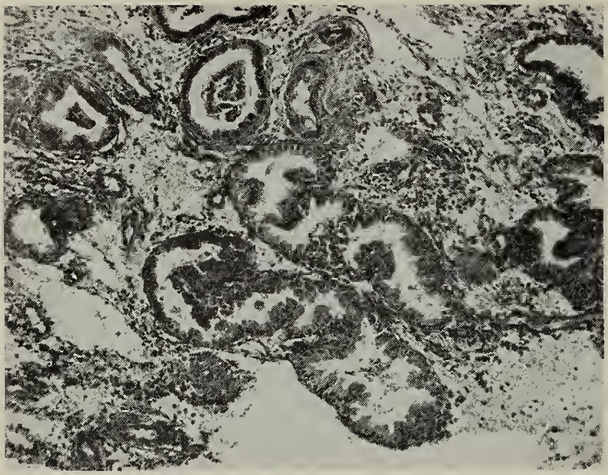

Figure 9.—Secretory hyperplasia. Specimen taken by curettage on twenty-sixth day of 28 to 30-day cycle for menorrhagia. When comparison is made with Figure 2, the lushness of the glandular response is evident (×125).

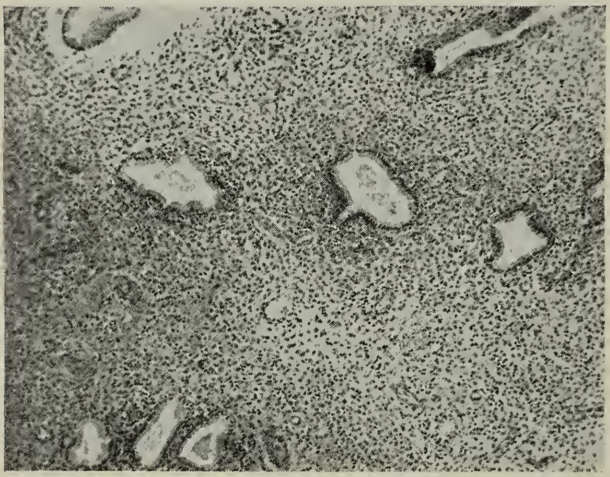

Figure 10.—Secretory hyperplasia. Dilatation and curettage was done on twenty-seventh day of 28-day cycle for prolonged menses (ten days). Note good stroma response but paucity and inactivity of glands (×125).

The patients may have premenstrual spotting and usually have menorrhagia. The endometrium is characterized by edema of the stroma and lush glandular response (Figure 9). This is the one condition in which testosterone is used for its ability to suppress the pituitary—usually a 10 mg. linguet daily, but more or less depending upon the patient response.

Although it is described as a cause of infertility, secretory hypoplasia is of interest in our clinic as a cause of bleeding. Figure 10 shows characteristic endometrial changes. The patients usually have prolonged menses with a tendency to bleed again at the time of ovulation. They respond well to daily (not cyclical) administration of small amounts of conjugated estrogens (0.3 to 0.675 mg.).

Hyalinization of the menstruating endometrium has been previously described as a cause of menorrhagia. Our interpretation of this difficulty is that it is a defect in the sloughing mechanism of the endometrium although it is often associated with irregular shedding. The microscopic findings are similar to those of the hyaline material occasionally associated with postpartum bleeding. However, in the specimen shown in Figure 11, menstruating endometrium, rather than decidua is present. Fortunately curettage ends the condition in most cases, although it is likely to recur in six months to a year.

Finally, there are rare cases in which the endometrium has lost the ability to respond properly to the ovarian steroids (Figure 12). All such cases

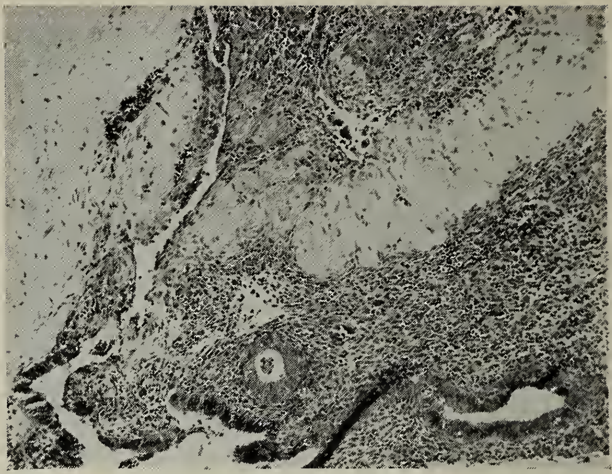

Figure 11.—Hyalinization of endometrium. Note masses of hyalin. Glands in this area are anovulatory. Dilatation and curettage was done on the fourteenth day of profuse bleeding that began on the twenty-ninth day of a normal 28 to 30-day cycle. The patient's last previous pregnancy was one year before the present irregularity (×125).

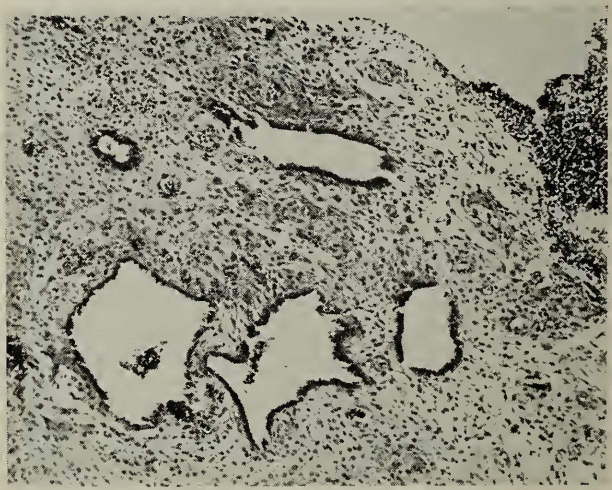

Figure 12.—Endometrial biopsy in case of target organ failure. Bleeding, in varying quantity, had been continuous for four months. Repeated attempts to control with estrogen or progesterone had failed. At the time this specimen was obtained, the patient had been receiving 50 mg. of stilbestrol daily for 20 days and 125 mg. of Delalutin® progesterone every two days for ten days, and bleeding was unabated (×125).

TABLE 1.—*Results of Treatment in 119 Cases of Dysfunctional Uterine Bleeding*

Classification	No. Cases	Results Good	 Poor	 Failure
Ovarian	112			
Anovulatory	78			
Hyperplasia	8	7	1	----
Hypoplasia	70	60	8	2
Ovulatory	34			
Corpus luteum irregularity	29	21	4	4
Hyperplasia	2	2	----	----
Hypoplasia	3	3	----	----
Endometrial	7			
Hyalinization	4	2	2	----
End organ failure	3	----	----	3
Results, all cases		95	15	9

observed by the author were associated with anovulation and the patients were near menopausal age. Care must be taken to differentiate cases of this kind from anovulatory hypoplasia, for in the latter condition the endometrium will regain the ability to respond. Lack of response must be proved by repeated endometrial biopsies following adequate exposure to ovarian hormones. The only satisfactory treatment is removal of the uterus or destruction of the endometrium by irradiation.

RESULTS

The results obtained by the use of the foregoing diagnostic attitudes and methods of treatment in 119 patients observed in the clinic in the period 1951-56 and on whom there was adequate follow-up data, are given in Table 1. The results were considered good if the patient had normal ovulatory cycles for at least six months or she became pregnant; poor if she was still under treatment. If the uterus was removed the result was deemed failure.

COMMENTS

To compare the results here reported with results obtained in any but the same kind of clinic treating the same kind of patients would be inequitable. The patients observed at the dysfunctional bleeding clinic at the Los Angeles County General Hospital usually come to the clinic only because they are sick, and it is extremely difficult to get a patient who has recovered to report that she is well. Another factor is that many patients with dysfunctional bleeding go through the inpatient or outpatient service of the hospital, recover because of time or curettage, and do not reach the clinic. This tends to make the clinical material proportionally high in "problem cases." Another peculiarity affecting the data is that many of the patients are kept under observation much longer than they would be in private practice, owing to the special interest of the clinic's medical personnel. The distribution of diagnoses also is peculiar to the kind of patients, there being a relatively higher incidence of anovulatory hypoplasias and lower incidence of irregular shedding than might occur in patients dealt with in another stratum of practice.

Emphasis should be placed upon the fact that dysfunctional bleeding is not an entity but a symptom. The approach to it should be the same as that to any problem in medicine. A history is taken, physical examination done and laboratory and diagnostic procedures carried out. With the data obtained by these means, definitive diagnosis is made and the patient treated accordingly. This adherence to sound medical principles is emphasized because of the author's belief that often in difficult cases failure can be laid to lack of systematic and logical approach to the problem.

The endometrial response to therapy—the duration and intervals between bleeding and the microscopic observation of changes in endometrial material removed for biopsy—are the best guides as to how much and how intensely to treat.

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Discussion by J. G. MOORE, *M.D.*, Los Angeles

Dr. Taw has presented a concise analysis of a series of patients who present a "malfunction of the normal menstrual mechanism." His definition of functional uterine bleeding would presume that we know the mechanism of normal menstruation. Such is not exactly the case, as is indicated by several reported series of women who have normal ovarian cycles and histologically normal endometrial cycles in the absence of visible menstrual flow. However, the positive approach of designating a specific malfunction in each case, even though it cannot always be proven, is appealing and lends itself well to the selection of therapy.

Dr. Taw's series is somewhat unique in that the patients had bleeding problems sufficient to force them to endure the rigors of a county hospital outpatient clinic. It represents a selection from a great number of inpatients who had dilatation and curettage for abnormal uterine bleeding. His patients are well studied from the standpoint of general physical condition, nutritional status, thyroid function and repeated endometrial biopsy. Perhaps as important as any factor is the review of histologic sections with the patient each time she attends the clinic. The frequent review of such sections, while outlining the regimen of management for any given patient, tends to focus treatment.

The review of Dr. Taw's histologic sections bears out that abnormal bleeding may result from endometrium of any type. Certainly the specimens show beautiful gradations between pronounced hypoplasia and decided hyperplasia. I am sure that Dr. Taw would be the first to state that the functional ability of the endometrium is not always associated with the degree of hypoplasia or hyperplasia of a given type of endometrium. It would be nice to have sections of proliferative endometrium from a series of normally menstruating women to show that the various degrees of hypoplasia and hyperplasia are not equally common in control groups.

I am impressed that Dr. Taw has kept his classification simple. He eliminates questionable deficiencies as well as subclinical aberrations of the blood coagulation mechanism. He has thus eliminated many of the impericisms of treatment such as hesperidin, cortisone and toluidine blue which have been so illogically employed in the management of functional uterine bleeding. This simplification results in practically all patients being managed with cyclic ovarian steroids for such periods of time as will allow the normal pituitary ovarian cyclicity or normal endometrial response to be reestablished. This concept is in keeping with the experience that functional uterine bleeding is largely a self-limiting condition and once organic disease has been ruled out with a curettage, most patients will in time resume a normal menstrual pattern.

I am largely in agreement with Dr. Taw concerning many of the finer points of management. The polyp forceps is certainly essential to the proper method of effecting a dilatation and curettage. Stilbestrol is a logical estrogen to use in instituting cyclic steroid therapy and the more expensive conjugated estrogens are not necessary with the great majority of patients. On the other hand, I have never been satisfied with linguets as a method of administering progesterone, for in a considerable percentage of patients I have been unable to obtain a progestational effect on the endometrium of anovulatory patients. I have had much better results with a single dose of 25 mg. (1 cc.) aqueous suspension progesterone given intramuscularly. Recently, we have effectively used 10 mg. tablets of 17-ethinyl-19-nortestosterone on each of four days before the expected onset of flow. This latter preparation has been most effective in producing a progestational effect on the endometrium and works well when added to stilbestrol during the third week of cyclic steroid therapy.

No. 1 Killer

Heart disease and cancer claim more lives than automobile crashes but lay their heaviest toll on those in later life. The automobile, when it kills, takes more *years* of life.

Reiter Protein Complement Fixation Test

A Preliminary Comparison of the TPI Test with the Complement Fixation Test Employing a Soluble Protein Antigen Derived from the Reiter Strain

JAMES N. MILLER, *Ph.D.*, RUTH A. BOAK, *M.D.*, and CHARLES M. CARPENTER, *M.D.*, Los Angeles

• A comparative study of the specificity of the Reiter protein complement fixation (RPCF) test and the Treponema pallidum immobilization (TPI) test on 180 sera showed that the results in 178 instances or 98.9 per cent were in agreement.

The sensitivity of the RPCF test, when compared to the TPI test, on 189 sera from patients known to have syphilis was in agreement in 182 or 96.3 per cent, *assuming* a correlation exists between positive TPI and both the "reactive" or "weakly reactive" RPCF test results.

As to reproducibility of results, the RPCF test results agreed in 84 of the 87 sera tested (95.4 per cent). The sera were tested at least three times on different days.

Anticomplementary reactions were observed in three of 91 normal sera.

ALTHOUGH THE Treponema pallidum immobilization (TPI) test, developed by Nelson and Mayer,[17] is at present accepted to be the most dependable test for the diagnosis of syphilis, the laborious techniques involved limit its use. As a result, several investigators have been searching for tests comparable in sensitivity and specificity for routine use in public health laboratories. Within the past few years, attention has been focused on the Treponema pallidum agglutination (TPA), Treponema pallidum immune adherence (TPIA), and the Treponema pallidum complement fixation (TPCF) tests. The advantages and disadvantages of these procedures have already been reported.[3,7,9,10,12,14,15,18,19,20,21]

In 1950, D'Alessandro, Oddo and Dardanoni[5] observed the avirulent Reiter strain of T. pallidum to contain four antigens, (1) a treponemal specific protein fraction, (2) a reactive lipoidal fraction identical with tissue lipoidal antigen, (3) a nonreactive polysaccharide, and (4) a nonreactive "organ" specific antigen. D'Alessandro and Dardanoni[6] further observed that the soluble antigen prepared from the protein fraction reacted with antisyphilitic sera in the complement fixation test. The antigen did not react with sera from animals "immunized" with a lipoidal antigen-foreign protein mixture. On the other hand, the lipoidal fraction gave weakly positive reactions in tests with sera from the "immunized" animals.

The use of a phenolized saline antigen comprising the whole cell Reiter spirochete has given results comparable to the sensitivity and specificity of the standard serologic tests (STS). A small percentage of sera from patients considered to be biologic false positive reactors and tested with the Reiter antigen showed reactivity, however.[22] Similar results have been reported in studies comparing the TPI test with the complement fixation test using the whole cell Reiter spirochetes as antigen.[8,11,16,24] Presumably, such results are due to the presence of lipoidal material in the spirochete. With the development of a soluble purified protein antigen, preliminary studies were undertaken to compare results obtained in the Reiter protein complement fixation (RPCF) test with those obtained in the TPI test.

MATERIALS AND METHODS

The soluble protein antigen used in the Reiter complement fixation test was prepared in a lyophilized state by Dr. J. H. De Bruijn of the National Institute of Public Health, Utrecht, Netherlands, according to the method of D'Alessandro and Dardanoni[6] and was supplied by Dr. Charles R. Rein. The antigen was reconstituted, as directed, with an equal volume of sterile distilled water and stored at 4° C. Immediately before use, the reconstituted antigen was diluted 1:80 with sterile 0.85 per cent salt solution and employed in a modified one-fifth volume Kolmer technique according to the TPCF test described by Portnoy and Magnuson.[19] The results of the test were interpreted as follows: 3+ and 4+, reactive; ± to 2+, weakly reactive; negative, nonreactive.

The TPI test was carried out according to the method of Nelson and Mayer[17] with modifications as described by Magnuson and Thompson,[13] Thompson and Magnuson,[23] and Boak and Miller.[1]

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Submitted October 21, 1957.

TABLE 1.—*Comparison of Specificity of the TPI and RPCF Tests*

Classification	Total Sera	TPI Negative RPCF Nonreactive	 RPCF Weakly Reactive	 RPCF Reactive	Anticomplementary	Per Cent Correlation
No history of syphilis, nonreactive STS*	88	88	0	0	3	100.0
No history of syphilis, reactive STS*	92	90	0	2	0	97.8
Total	180	178	0	2	3	98.9

*VDRL and Cardiolipin Kolmer tests.

Abbreviations: TPI = Treponema pallidum immobilization.
CF = Complement fixation.
RPCF = Reiter protein complement fixation.
STS = Serologic test for syphilis.
VDRL = Venereal Disease Research Laboratory (Chamblee, Georgia).

TABLE 2.—*Comparison of Sensitivity of the TPI and RPCF Tests*

Classification (Treated Cases)	Total	TPI Positive RPCF Reactive	 RPCF Weakly Reactive	 RPCF Nonreactive	TPI Negative RPCF Reactive	 RPCF Weakly Reactive	 RPCF Nonreactive	Correlation of RPCF and TPI Totals
No history syphilis, reactive STS*	115	110	5	0	0	0	0	$\frac{115}{115}$
No history syphilis, nonreactive STS*	11	10	1	0	0	0	0	$\frac{11}{11}$
Early syphilis, reactive STS	38	26	3	1	1	2	5	$\frac{34}{38}$
Early syphilis, nonreactive STS	9	5	1	0	1	1	1	$\frac{7}{9}$
Late syphilis, reactive STS	7	5	1	0	0	0	1	$\frac{7}{7}$
Late syphilis, nonreactive STS	1	1	0	0	0	0	0	$\frac{1}{1}$
Congenital syphilis, reactive STS	5	4	1	0	0	0	0	$\frac{5}{5}$
Congenital syphilis, nonreactive STS	3	2	0	1	0	0	0	$\frac{2}{3}$
Total	189	163	12	2	2	3	7	$\frac{182}{189}$

*VDRL and Cardiolipin Kolmer tests.

Abbreviations: TPI = Treponema pallidum immobilization.
STS = Serologic test for syphilis.
RPCF = Reiter protein complement fixation.
VDRL = Venereal Disease Research Laboratory.

EXPERIMENTAL RESULTS

The Specificity of the RPCF Test

RPCF tests were carried out on 91 sera from persons with no history of syphilis, nonreactive STS, and with a negative TPI test. Three sera were anticomplementary. All of the remaining sera showed nonreactive RPCF tests (Table 1). Quantitative titrations could not be carried out on the three anticomplementary sera because of lack of sera. Ninety or 97.8 per cent of 92 sera from patients with no history of syphilis, a reactive STS, and a negative TPI test showed nonreactive RPCF tests. Thus, 178 or 98.9 per cent of 180 sera on which valid results were obtained showed nonreactive RPCF tests, indicating the high specificity of the antigen.

The Sensitivity of the RPCF Test

The sensitivity of the RPCF test was determined by testing 189 sera from treated patients known to have or to have had syphilis, on the basis of a positive TPI test or darkfield positive lesions. Too few samples of serum were tested to compare the results of the two tests in the different stages of the disease. Assuming that correlation exists between positive TPI test results and both reactive and weakly reactive RPCF results, the two procedures correlated in 182 or 96.3 per cent of the 189 sera tested (Table 2).

The Reproducibility of the RPCF Test Results

The reproducibility of the RPCF test results was observed on 87 sera tested at least three times on different days. Fifty-six sera were from patients with no history of syphilis, reactive STS, and a negative RPCF test result. Eight were from patients with a history of syphilis and a negative RPCF test result, and the remaining 23 were from patients with a history of syphilis and a reactive or weakly reactive RPCF test result. The results of the tests on 83 or 95.4 per cent of the 87 sera were in agreement and those obtained on sera from four patients with a history of syphilis did not agree.

DISCUSSION

The comparative studies on the TPI and RPCF tests presented in this preliminary report indicate a satisfactory degree of sensitivity and specificity for the RPCF test employing a purified protein antigen from the Reiter avirulent strain of T. pallidum. The data are in accord with the recent report of Cannefax and Garson,[4] who observed that the results of the RPCF test compared favorably with those obtained with the TPI and TPCF tests. In the former procedure, the antigen was prepared similarly to that used in the present study.

A disadvantage of the RPCF test which often occurs in complement fixation procedures is the anticomplementary reaction. In this study, three such reactions were observed in the presence of normal sera, but no anticomplementary results were observed with the TPI test on the same sera. The percentage of anticomplementary reactions obtained with the RPCF procedure when testing larger numbers of samples is under investigation.

The significance of the "weakly positive" RPCF reaction in the presence of a positive TPI test is difficult to evaluate at present. Although the "weakly positive" reactions were included in the correlation of the two tests, obviously a weakly positive result reflects a lower degree of sensitivity than a test resulting in a positive reaction. On the other hand, five patients with confirmed history of syphilis and negative TPI test results showed some degree of reactivity in the RPCF test. The preliminary study suggested that, in the presence of a 98.9 per cent specificity, any reactivity in the RPCF test presumably indicates infection with virulent T. pallidum. Further studies with a larger number of selected sera are in progress to formulate a dependable interpretation of the reactions.

The satisfactory reproducibility of the RPCF test results compares favorably with the reproducibility of the TPI test results obtained by Boak, Miller and Carpenter.[2] This, together with the high degree of sensitivity and specificity of the test, indicates that the RPCF test may become a dependable adjunct to the battery of standard tests for syphilis.

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Treponemal Serologic Tests

Experiences of the Bacteriology Laboratory, California State Department of Public Health

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• In a study of the relationship of clinical impression regarding syphilis and age, sex and pregnancy status to treponemal serologic test reactivity, it was noted that in diagnostic "problem cases" the standard lipid serologic test titers did not differentiate between syphilitic and biologic false positive reactors. Preliminary data indicated that heroin addiction may be a source of biologic false reactions and that pregnant women with standard serologic test reactivity have a lower treponemal reactivity rate than other women with lipid serologic reactivity.

NOTWITHSTANDING the general downward trend in reported cases of syphilis during the past decade, this infection represents a continuing problem to clinicians, epidemiologists and microbiologists.

An ever present problem to clinicians and laboratorians is the biologic false positive (BFP) reaction with the standard lipid tests for syphilis in patients in whom there is no historical, clinical or epidemiological evidence of syphilitic infection. Moore and Mohr[6] expressed the belief that in certain population groups at least half the persons with serologic reaction in mass blood-testing programs do not have syphilis. Although these reactors represent a small fraction of the total number of persons tested in such a program, they present a very real problem to physicians.

Following the description of the Treponema pallidum immobilization (TPI) test in 1949 by Nelson and Mayer,[7] serologic procedures employing treponemal antigens have become available which are considered to possess a high level of sensitivity and specificity in the treponematoses. In a collation of results of the clinical significance of the TPI on some 10,035 sera and 323 specimens of spinal fluid, Nielsen and Reyn[8] reported that the general sensitivity of the TPI test appears to be high except in early syphilis; the TPI result was positive in about 60 per cent of the cases of primary syphilis studied, in about 90 per cent of the secondary cases and in nearly 100 per cent of the cases of longer duration. These investigators also reported a high level of specificity.

Although his study series was smaller, Zellerman[10] noted false treponemal test results in only 0.3 per cent of the cases studied.

The Treponema pallidum complement fixation test (TPCF) described by Portnoy[9] in 1955 is reported to be more sensitive in early syphilis than is the TPI test; and the false-positive incidence is reported to be less than 1 per cent.[4]

The treponemal testing program of the United States Public Health Service has provided a much needed opportunity for an evaluation of the reactivity patterns of some of the standard serologic tests for syphilis in diagnostic problem cases. It has been repeatedly shown that the standard serologic tests for syphilis demonstrate satisfactory sensitivity in cases of syphilis and a high level of specificity in selected nonsyphilitic persons. However, little has been published concerning the reactivity level of these tests in diagnostic problem cases. Indeed, until the advent of the treponemal tests, it was extremely difficult to establish a standard of reference whereby the serologic tests employing lipid antigens could be evaluated.

Data presented in this paper concern the relationship of treponemal tests and the reactivity level of standard serologic tests employing lipid antigens. These tests were performed respectively in the Venereal Disease Research Laboratory (VDRL) at Chamblee, Georgia, and the California State Division of Laboratories. The term *lipid test* is used to describe standard serologic tests employing either crude lipoidal or cardiolipin-lecithin antigens. The serologic tests selected were the VDRL slide test and the Kolmer complement fixation test. Both of these tests employ cardiolipin-lecithin antigens. The standard Kolmer test employs an antigen in which the ratio of lecithin to cardiolipin is 1.66 to 1. In addition to this antigen, the Kolmer test was also performed with two less sensitive antigens. One of these was the crude lipoidal antigen known as "New Improved Kolmer Antigen,"[5] which is still used in a number of laboratories, and the other was a cardiolipin-lecithin antigen with a ratio of lecithin to cardiolipin

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Based upon a paper presented to the Venereal Disease Section of Western Branch American Public Health Association Meeting, Long Beach, May 29, 1957.

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TABLE 1.—*Clinical Impression and Treponemal Reactivity on 1,290 Specimens Submitted for TPI Testing*

			TPI Reactivity			
			Number		Per Cent	
Clinical Impression	Number	Per Cent	Reactive	Nonreactive	Reactive	Nonreactive
Syphilis	224	17	156	68	70	30
BFP	941	73	415	526	44	56
Not stated	125	10	67	58	54	46
Total	1,290	100	638	652	49	51

Abbreviations: TPI = Treponema pallidum immobilization; BFP = Biologic false positive.

TABLE 2.—*TPI Reactivity of 1,286 Patients by Age and Sex*

	Males			Females		
		TPI Reactive			TPI Reactive	
Age Group—Years	Total No.	No.	Per Cent	Total No.	No.	Per Cent
<16	10	4	40	6	0	0
16 to 45	316	152	48	558	238	43
46>	192	116	60	204	128	63
All ages	518	272	53	768	366	47

TPI = Treponema pallidum immobilization.

TABLE 3.—*TPI Reactivity in 768 Women According to Pregnancy Status*

		TPI Reactive		TPI Nonreactive	
Pregnancy Status	Total No.	No.	Per Cent	No.	Per Cent
Pregnant	135	38	28	97	72
Pregnancy not indicated	633	328	52	305	48

TPI = Treponema pallidum immobilization.

of over 11 to 1 and a sensitivity about equal to the new improved Kolmer antigen. This formulation of Allen and Mason[2] is now used in the National Health Department Laboratories in Canada. However, in this study it has been used only on an experimental basis and individual test results have not been reported to physicians.

The USPHS Venereal Disease Research Laboratory through State and Territorial Health Departments has offered a nationwide treponemal testing service since January 1955. The criteria established by the USPHS required that specimens be submitted only on diagnostic problem cases in which there was a possible discrepancy between clinical opinion and serologic test results. All patients with reaction to lipid tests, except pregnant women, were to be followed with these tests for a minimum of three months before specimens were sent for treponemal testing. Physicians were further required to submit a clinical data sheet for each patient. The information requested included: History of syphilis in the patient or his family, evidence of other treponemal or other venereal disease, evidence of certain diseases thought to cause biologic false positive reactions in the standard tests, record of previous standard test results, the physician's clinical impression of the significance of these results—that is, whether he thought them due to biologic false reactivity or to syphilis. No data were requested regarding pregnancy or drug addiction. Requirements were established regarding collection and submission of specimens in an effort to insure reliability of test results.

In California whole blood specimens accompanied by the clinical data sheet and a syphilis serologic test request form were submitted to the State Division of Laboratories by private physicians, local health departments and venereal disease clinics. A portion of serum accompanied by the clinical data sheet was sent to the Venereal Disease Research Laboratory for treponemal testing. When there was an adequate amount of serum, a portion was reserved for testing in the California State Laboratory with the standard lipid tests. The procedures employed in performing these tests are outlined in the 1955 Manual of Serologic Tests for Syphilis.[1] Data from the history sheet, correspondence and the state serology form as well as standard and treponemal test results were entered on marginal punch cards. This procedure afforded an opportunity for comparison of lipid and treponemal test reactivity on "problem" sera in California.

From January 1955 to January 1957, 1,290 sera were tested in the Venereal Disease Research Laboratory by the TPI and in the California State Laboratory with the lipid tests indicated. Because of serum limitations, all four standard serologic tests were not

TABLE 4.—*Agreement of Individual Lipid Tests with Treponemal Test*

STS		Per Cent Agreement of STS with Treponemal Test		
Test*	Number Sera Tested	Treponemal Reactive Sera	Treponemal Nonreactive Sera	Overall Agreement with Treponemal Test
VDRL slide	1,576	93	42	68
Kolmer's cardiolipin (1)	1,530	86	46	66
Kolmer lipoidal (5)	1,320	55	80	68
Kolmer Canadian (2)	347	59	83	73

*Numbers in parentheses indicate reference citation.
Abbreviations: STS = Standard serologic test; VDRL = Venereal Disease Research Laboratory test.

performed on every specimen. Early in 1957, the testing procedure at the Venereal Disease Research Laboratory was changed from the TPI to the Treponema pallidum complement fixation (TPCF) test. From January through March 1957, 290 additional sera were tested in the two laboratories. The comparison of STS reactivity with treponemal test reactivity was essentially the same for the TPI and the TPCF. Therefore, in many instances in this paper, no distinction will be made as to which treponemal test was performed. For purposes of comparison and simplification, weakly reactive and reactive qualitative test results are grouped as reactive in both the standard and treponemal tests.

Treponemal Reactivity by Clinical Impression (Table 1)

A physician submitting a specimen was asked to state if in his opinion the serologic test for syphilis (STS) reactivity represented syphilis or a biologic false positive (BFP) reaction. A clinical impression of syphilis was indicated for 17 per cent of the patients, an impression of BFP for 73 per cent, and no impression was stated for 10 per cent. Of the 1,290 specimens submitted for TPI testing, 49 per cent were TPI test reactors and 51 per cent were TPI nonreactors. The TPI test showed reaction in 70 per cent of the patients with a physician's impression of syphilis, in 44 per cent of the patients believed by the physician to have BFP, and in 54 per cent of the patients about whom no impression was given.

Treponemal Reactivity by Age, Sex, and Pregnancy Status (Tables 2 and 3)

There were 1,286 specimens submitted for TPI testing upon which data were given regarding the patient's sex and age. Five hundred and eighteen or 40 per cent of these specimens were from males and 768 from females. The number of specimens in the age group under 16 years was considered too small to permit meaningful analysis regarding TPI reactivity in this group. In the age group of 46 years and over, 60 per cent of men and 63 per cent of women had TPI reactivity. In the 16-45 year group, 48 per cent of males and 43 per cent of women were reactive.

Although the history form did not ask for a statement of pregnancy status, the physicians submitting the specimens noted pregnancy in 135 women, all of whom were in the 16 to 45 age group. Data for TPI reactivity according to pregnancy status are given in Table 3. Of the 135 women known to be pregnant, only 38 (28 per cent) were TPI reactive. In all other women, TPI reactivity was 52 per cent, which closely approximates the 53 per cent treponemal reactivity of all males.

Treponemal Reactivity in Other Conditions

Because of a lack of consistency in the data submitted on the history form employed in this study, an evaluation of treponemal test reactivity in conditions commonly thought to cause false positive STS results was not made. However, it is of interest that 25 heroin addicts who were presumably nonsyphilitic but had standard test reaction, had only half the incidence of treponemal reactivity observed with other patients.

Comparison of STS and Treponemal Reactivity (Table 4)

In this group of sera from problem patients, the VDRL slide test results agreed best with the treponemal reactive results and poorest with the treponemal nonreactivity. Of 1,576 sera tested by the VDRL, 93 per cent were reactive with the treponemal reactive sera but only 42 per cent were nonreactive in the treponemal nonreactive sera. The cardiolipin Kolmer test was the next most reactive test. In results on 1,530 sera tested, 86 per cent agreed with the treponemal reactors and 46 per cent agreed with the treponemal nonreactors. In 1,320 sera, the lipoidal Kolmer test was reactive in only 55 per cent of the treponemal reactive specimens but was nonreactive in 80 per cent of the treponemal nonreactive sera. Testing procedures were not started with the Canadian cardiolipin Kolmer antigen until November 1956. From that date to May of 1957, 347 sera were tested. The Canadian Kolmer test was reactive in 59 per cent of the treponemal reactors tested and was nonreactive in 83 per cent of the treponemal nonreactive sera, which closely approximates the reactivity agreement of the lipoidal Kolmer test.

Overall agreement between the treponemal tests and each of these lipid tests was between 66 and 73 per cent.

Whenever possible, several STS were performed on each specimen submitted for treponemal testing to determine if a battery of tests would be helpful in solving these serologic problems. There were 1,302 specimens upon which it was possible to perform the VDRL slide test and the Kolmer test with cardiolipin and lipoidal antigen (Table 5). In 78 per cent of the sera that were reactive to all three STS, the TPI was also reactive. The incidence of TPI reactivity dropped to 50 per cent on sera reactive to only two STS, and to 33 per cent on sera reactive to only one STS. In 89 per cent of the sera where all three STS were nonreactive, the TPI was also nonreactive.

TABLE 5.—*Lipid and Treponemal Test Reactivity on 1,302 Specimens*

STS*	Total Specimens	Treponemal Test: Reactive No.	Reactive Per Cent	Nonreactive No.	Nonreactive Per Cent
Reactive in 3 STS	426	330	78	96	22
Reactive in 2 STS Nonreactive in 1 STS	400	198	50	202	50
Reactive in 1 STS Nonreactive in 2 STS	252	83	33	169	67
Nonreactive in 3 STS	224	25	11	199	89

*Tests employed: Venereal Disease Research Laboratory slide; Kolmer with cardiolipin and lipoidal antigens.

Relationship Between STS Titer and Treponemal Reactivity

If the available specimen was large enough, quantitative tests were performed in an effort to determine the relationship of STS titer to treponemal reactivity on sera from patients presenting diagnostic problems. In sera reactive in the VDRL slide test (Chart 1), there was no difference in titer between presumably syphilitic sera (TPI reactors) and presumably biologic false positive sera (TPI nonreactors). Ninety per cent of the reactions occurred at dilutions lower than 1:8. Although not shown in the chart, the distribution of titers obtained in the Kolmer test with lipoidal and with Canadian antigen very closely paralleled that obtained in the VDRL slide test. The charted curve of the standard cardiolipin Kolmer antigen test results was similar to that of the VDRL, but it was reactive at a somewhat higher titer, some 40 per cent of the sera showing reaction in dilutions of 1:8 or higher.

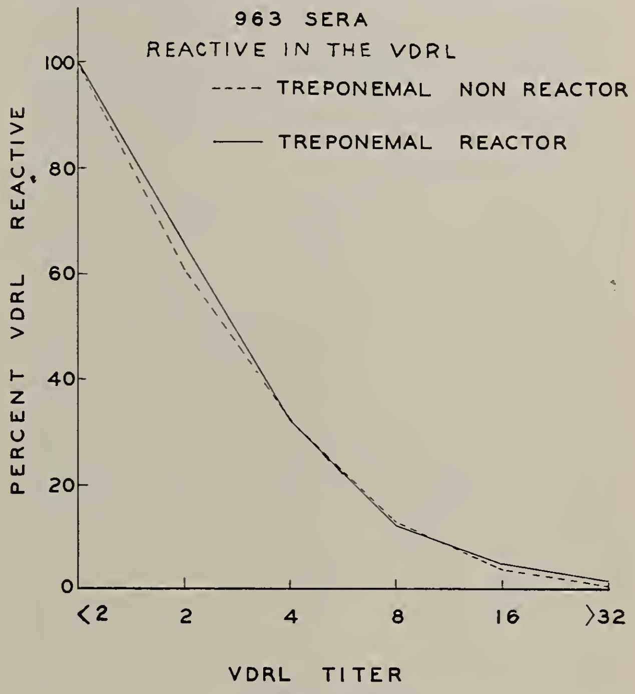

Chart 1.—Showing lack of agreement between VDRL test (Venereal Disease Research Laboratory) and treponemal immobilization test.

DISCUSSION

The correlation between clinical opinion and treponemal reactivity reported here is similar to that previously reported by Bossak and associates[3] for the United States as a whole. In over 50 per cent of the cases in which the physician considered the STS reaction a false positive one, the TPI bore out the clinical impression. However, over 40 per cent of the presumably false reacting patients were treponemal reactive.

The data presented in Chart 1 clearly indicate that in the individual patient it is impossible to predict treponemal reactivity from standard serologic test reactivity. In patients presenting diagnostic problems, there was no correlation between treponemal reactivity and the amount of reagin present as determined by quantitative STS. In this series of tests, several specimens with STS titers reaching 1:5,000 were treponemal nonreactive. However, when a battery of STS was performed, the greater the number of reactive lipid tests, the greater the chance that the treponemal test would also be reactive. Conversely, the greater the number of nonreactive lipid tests, the greater the chance that the treponemal test would also be nonreactive. While statistical data cannot apply to an individual patient, the finding of lipid reactivity in two or more STS set at different levels of reactivity may offer a clue for the deeper probing into the medical, physical and social history of patients who have such reactivity. It would seem equally important to do further studies of a patient with discrepancy between results of serologic tests. An appreciable number of patients showing serologic reactivity over a period of three months or more in only one or two of several STS, were reactive to the treponemal tests. Thus, it would appear that any presumably false serologic reaction which cannot be definitely attributed to some other condition and which persists for a period of at least three months should be checked by one or more of the available treponemal procedures.

The finding of a significantly lower level of TPI reactivity in pregnant women than in all other women tested is of interest. However, it must be pointed out that a different basis of selection was employed for the two groups. Pregnant women were not required to be followed for three months with the standard tests as were all other patients. It is probable that some of the treponemal nonreactors in the pregnant group would not have been included in the study had these women been followed for three months with the lipid tests as were other patients in this study. Nonetheless, there is evidence that pregnancy is of itself a cause of biologic false reaction of the acute type. It is hoped that studies now in progress will provide additional information on both pregnancy and heroin addiction as possible causes of false positive reactions in the standard tests.

Although the VDRL test results gave the poorest agreement with treponemal test nonreactors in this series of problem specimens it should not be inferred that this test is unsatisfactory for routine use. Experience is quite to the contrary. Routine serologic tests are not specific for syphilis but react in nearly 100 per cent of late primary, secondary and early latent cases. In determining test reactivity levels, serologists reporting on studies must achieve a nice balance between ability to react in cases of luetic infection and inability to react in serum from presumably nonsyphilitic individuals. It has been a general experience that as test sensitivity increases, specificity decreases. Regardless of the sensitivity level, serologic tests for syphilis must be subject to control of reproducibility of test results at the operating level and not be too cumbersome to perform. Of tests in common use, the VDRL seems best to meet the needs of clinicians and of laboratories in these respects.

Perhaps a word is needed about the validity of data involving the smaller number of tests employing the Canadian antigen formulation in the Kolmer test. When other STS antigens were evaluated in terms of TPI results at the same stage of experience, there was no decided deviation from that herein reported. We feel the data given are a reliable index of future experience.

In the present series of patients, there was no known bias in selection according to racial or socioeconomic status. The patients would appear to represent a cross-section of the population of California. However, data are needed to evaluate the influence of these factors in determining treponemal reactivity.

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Splenectomy in Blood Dyscrasia

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• The decision for splenectomy must be based on a knowledge of the three functions of the spleen: Hematopoiesis (usually ceasing during fetal life but sometimes resuming when bone marrow function fails); filtration of abnormal and senescent cells and control of bone marrow activity, most probably humoral.

When bone marrow function fails, splenectomy is contraindicated since splenic hematopoiesis becomes a vital function. On the other hand, when a large proportion of erythrocytes are abnormally shaped (spherocytes), although otherwise adequate, the spleen may trap these cells in its filter and destroy large numbers. Splenectomy is beneficial in almost every case of congenital spherocytosis, but in only half the cases of the acquired defect.

In panhematocytopenia, thrombocytopenia and neutropenia, all apparently due to depression of hematopoiesis by endocrine or other action of the spleen, splenectomy may be beneficial if medical therapy fails.

A surgeon undertaking splenectomy should recognize two special problems: (1) The presence of accessory spleens, which if not removed may negate the effects of the operation, and (2) the apparently high rate of infection in infants and children who have undergone splenectomy.

"THE SURGEON is often placed in a somewhat delicate position when asked to see a patient about splenectomy, unless the indications are clear and well-established, as in familial hemolytic anemia. By the time the surgeon's opinion is asked, the physician, in collusion with the hematologist, has already probably decided the issue. The surgeon may thus find himself relegated to the humble position of the craftsman, for he cannot hope to master the intricacies of hematology to an extent which will qualify him to argue on equal terms with those whose business it is to be expert in this branch of medicine. He should be able, however, to make some contribution in the light of his experience with splenectomy and particularly of surgery in general."[6]

This quotation from Edwards challenges surgeons to familiarize themselves with the indications for and the sequelae of splenectomy.

Unlike those diseases in which a certain diagnosis is an indication for a specific treatment, splenic disease is still identified symptomatically, and splenectomy often must be used in the hope of symptomatic relief, rather than in the certainty of relieving an underlying disease. Nevertheless, the surgeon should know which splenic functions he may alter or obliterature by splenectomy.

The first function of the spleen is hematopoiesis, which normally is present only during fetal life. In later life, though, if bone marrow is replaced by tumor, fibrosis or cortical bone tissue, so that normal hematopoiesis becomes impossible, the spleen reverts to its fetal function and becomes a source of formed blood elements. In this condition, known as myeloid metaplasia, splenectomy is contraindicated.

The second function is that of eliminating erythrocytes from the circulation, apparently by filtration. It is not clear how the normal senescent cell is affected by the spleen, since the life span of the erythrocyte (about 120 days[1]) is not prolonged after splenectomy.[15] More definite is the evidence in such blood dyscrasias as congenital spherocytosis. In patients with this disease who receive normal blood, the abnormal spherocytes are found in the spleen in far greater concentration than in the peripheral circulation. Conversely, if spherocytic blood is perfused through an essentially normal spleen (removed from a patient with thrombocytopenic purpura), the abnormal spherocytes are sequestered by the spleen. These findings demonstrate that the spleen does retain morphologically abnormal erythrocytes.

The third function of the spleen is to control bone marrow activity. Since depression of marrow function is relieved after splenectomy, it seems most likely that the spleen produces a hormone that has this depressing effect.

INDICATIONS FOR SPLENECTOMY

Hemolytic Anemia

Congenital hemolytic anemia has a number of descriptive names among which are: Hereditary spherocytosis, congenital hemolytic jaundice, familial hemolytic jaundice, acholuric jaundice, congenital hemolytic anemia, familial hemolytic anemia and spherocytic or globe-cell anemia. The spherocytic tendency is inherited as a Mendelian dominant and is characterized by abnormally thick red blood

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cells. These spherocytes are functionally adequate as to oxygen-carrying capacity, but their abnormal fragility and shape make them ever a prey to the splenic filter.[20,21] Splenectomy therefore both theoretically and in actual practice is a consistently beneficial therapeutic measure and good results can be expected in almost all cases in which diagnosis is clear-cut.

Splenectomy should be performed between acute hemolytic episodes, since operation is much better tolerated if the patient is relatively asymptomatic. This can usually be accomplished either by waiting or by the use of corticotropin (ACTH) or cortisone, and "emergency" splenectomy for congenital hemolytic anemia is rarely necessary.

Acquired hemolytic anemias may be divided into idiopathic and secondary. In the idiopathic acquired as well as in some of the secondary acquired types, the basic defect is a circulating antibody which causes spherocytosis with increased mechanical and osmotic fragility, resulting in hemolytic crises. The condition of the blood may thus appear superficially the same as in congenital hemolytic anemia, particularly during periods of hemolysis. The differential diagnosis is dependent upon two factors. One is the absence of familial incidence and the other is the presence of a circulating antibody which periodically attacks the red cells, causing excessive hemolysis secondary to abnormal shape and increased fragility. Between hemolytic crises, the red cell shape and fragility may be normal even though the antibody is still present. This antibody may be demonstrated in a large proportion of these cases by the Coombs test.[2]

Splenectomy benefits approximately 50 per cent of patients with idiopathic acquired hemolytic anemia, but predicting which will be benefited is quite difficult. If a patient is having serious symptoms, splenectomy should be offered if medical therapy, including use of corticotropin (ACTH) or cortisone, fails.[4]

The chief diagnostic differences between hereditary and acquired spherocytoses are summarized in Table 1.

The secondary acquired hemolytic anemias may be due to splenic involvement from lymphoma, leukemia, Hodgkin's disease, sarcoidosis, Gaucher's disease, kala-azar or tuberculosis. If the hemolytic anemia associated with any of these diseases is of prime importance and does not respond to medical measures, splenectomy may be of some benefit. It should be emphasized, however, that this is symptomatic therapy for hemolytic anemia and not a therapeutic measure for the underlying disease. The cause of this form of hemolysis is uncertain. It is postulated that in some cases in which the spleen becomes greatly enlarged, the organ elaborates a lytic substance which acts on the large amount of blood confined in it.

TABLE 1.—*Findings in Hereditary and Acquired Spherocytosis*[5]

	Hereditary	Idiopathic Acquired
Family history of disease	Usually present	None
Finding of disease in studies of family	Definitely positive	Negative
Abnormal antibody at body temperature	Negative	Positive
Result of Coombs test	Negative	Positive
Survival of transfused erythrocytes	Normal	Reduced

Thrombocytopenia

The basic defect in idiopathic thrombocytopenic purpura is arrest in maturation of the megakaryocyte which is the stem cell of the thrombocyte or platelet. The megakaryocyte fails to form the "buds" which in turn form the platelet.[14] In the majority of patients with idiopathic thrombocytopenic purpura, splenectomy is not necessary for amelioration of the symptoms. Most of the episodes either are self-limited or can be successfully treated with corticotropin or cortisone.[8] However, in some cases there is no response to conservative therapy, whereas 65 to 75 per cent of adults and 90 per cent of children respond well to splenectomy. After splenectomy, the megakaryocytes mature and form buds, and the platelet count increases. Simultaneously, the bleeding tendencies cease. There are observers who still maintain that the spleen acts as a filter of the thrombocyte in this disease; however, most of the evidence points to a humoral substance which arrests maturation of megakaryocytes by depressing bone marrow.

The diagnosis of idiopathic thrombocytopenic purpura usually is not very difficult, but secondary causes of thrombocytopenia must be excluded.[10,11] The essential diagnostic features of idiopathic thrombocytopenic purpura are a history of excessive bleeding or easy bruising, a platelet count of less than 100,000 per cu. mm. of blood, evidence of arrest in maturation of megakaryocytes, an absence of signs of bone marrow involvement by lymphoma, leukemia, or carcinoma, and a similar absence of systemic disease as determined by microscopic examination of peripheral blood. In the majority of cases, the spleen is not palpable in this disease. This finding alone will usually differentiate primary from secondary thrombocytopenia.

In general, secondary thrombocytopenia is a contraindication to splenectomy since it is part of the systemic disease and splenectomy will be of no benefit. However, when excessive bleeding is a part of the systemic disease and cannot be controlled by the use of corticotropin or cortisone, splenectomy may be recommended and in some instances has controlled the bleeding and given the patient a more comfortable existence for the remainder of his life.

Hypersplenism and Cytopenia

The hypersplenic state may manifest itself through a reduction in all the formed blood elements (panhematocytopenia) or of any of these elements. An important although relatively infrequent deficiency is that of neutrophils (splenic neutropenia). Some investigators attribute this to active depression of bone marrow function such as occurs in idiopathic thrombocytopenic purpura; others believe it may be due to excessive phagocytosis by the spleen. Whatever the cause, splenectomy does result in an increase in leukocytes and freedom from infections secondary to neutropenia. The disease occurs most commonly in women 30 to 60 years old, who become chronically ill with recurrent skin and mouth infections. The spleen is enlarged and leukocytes number 1,000 to 2,000 cells per cu. mm. of blood. The bone marrow is excessively cellular, with many granular cells present although mature forms may be rare. In conjunction with this state, rheumatoid arthritis may be present (Felty's syndrome), but if splenectomy is recommended it should be for the leukopenia alone and not for the arthritis, on which it has no effect.

As previously stated, if all the formed blood elements are deficient, the syndrome is known as panhematocytopenia. In some cases, this may take the form of excessive destruction of blood, the symptoms being those of hemolytic anemia. In others, the deficiency seems to be due to depression of marrow function. As in other hypersplenic syndromes, the condition may be primary—and this responds well to splenectomy—or secondary, as a result of splenic involvement from lymphomas, Gaucher's disease, kala-azar or tuberculosis. The secondary state is less likely to respond to splenectomy, except in isolated instances when symptoms are due to size and malfunction of the spleen.[13]

ACCESSORY SPLEENS

One or more accessory spleens have been found in from 25 to 50 per cent of patients undergoing splenectomy. The possibility of this condition should be at least recognized by the surgeon.[3] Some investigators believe that accessory spleens may not be important; but the consensus is that they may cause the disease process to continue or recur, and therefore should be removed.[12,19]

Three out of four accessory spleens are found in the hilar or pedicle area of the spleen. These present no problem in visualization and removal. More troublesome are the minority found in locations which may seem puzzling until the embryonic development of the spleen is considered. In the twelfth week after conception, the spleen is a differentiated structure situated between the mesonephric and the urogenital folds. During the caudal migration of the genital gland, splenic tissue may be carried along, to be deposited at the upper pole of the left testis and epididymis, or, in females in the region of the left mesosalpinx and mesovarium. The path of migration is in some cases evident in a band of fibrous or splenic tissue, or both, connecting the normal spleen with the ecotopic tissue in the scrotum or the broad ligament. Before splenectomy, the scrotum should be carefully examined in males; in females the entire abdomen including the left adnexa should be searched for accessory spleens. If the postoperative result is not satisfactory, the possibility of accessory spleens should be considered.

SEQUELAE

Most reports on splenectomy make no reference to any untoward sequelae. Some investigators believe that at a given degree of platelet surplus, heparin or some other anticoagulant should be given to obviate thromboembolic disease, but others consider this precaution unnecessary. Since it is known that if all the other clotting elements in the blood are normal an increase in platelets increases coagulation, it seems reasonable that any increased danger should be met by antithrombotic measures.

In recent years there has been an increase in reports of infections in children following splenectomy. In 1952 King and Shumacker[9] reported case histories of five infants under six months of age who had multiple infections following splenectomy. The indication for splenectomy in all these infants was congenital hemolytic anemia. Four of the five infants had either meningitis or overwhelming meningococcemia in from six weeks to three years after operation, and one of the four died of the infection. The fifth child was returned to the hospital a few days after discharge following splenectomy with a rapidly fatal febrile illness, apparently infectious in nature. In 1955, though, Walter and Chaffin[18] reported on ten infants from the Children's Hospital in Los Angeles who had had splenectomy below the age of 7 months; in this group there was no increase in the infection rate. At the Children's Hospital in Boston an increased incidence of pneumococcic infections in infants occurred following splenectomy, and a similar observation was made by Smith in New

York.[16] The cause of this increased rate of infections is not clear, especially since it has been shown that the gamma globulin fraction is not decreased in infants after splenectomy. Nevertheless, children should be observed closely for infections after splenectomy so that therapy can be instituted at an early date if there is any indication of infectious disease.

There appears to be no increase in infections in adults following splenectomy.

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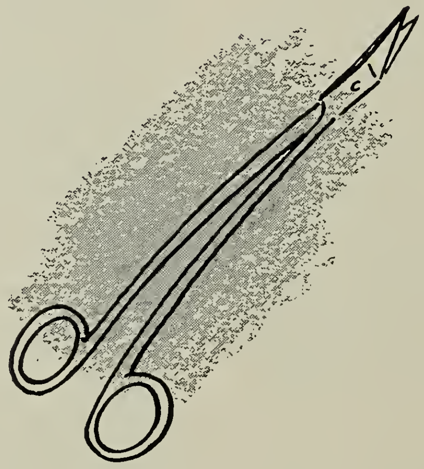

Hypersensitivity to House Dust

A Preliminary Report on Treatment of Children with Antigens at Two Different Dosage Levels

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• **Two comparable groups of children with allergic sensitivity primarily to house dust were treated respectively with low (1:1,000,000) and high (1:100) dilutions of Endo house-dust extract. In the two groups there were 47 patients with asthma, 5 with chronic allergic rhinitis, and 10 with both.**

After an average of 16 to 18 months of injection treatment, good to excellent results were obtained by 75 per cent of the patients on low dosage and 80 per cent on high dosage. Change of dosage from low to high in five cases, and from high to low in five others, made no perceptible difference in results. Continuous and regular treatment seemed to be more important than the size of dose.

The apparent effectiveness of small doses of dust extract may be due to the polysaccharide nature of the material which persists as an active antigen in the tissues.

SENSITIVITY TO HOUSE DUST as shown by clinical history and skin testing is the commonest finding among patients referred to the Allergy Clinic at the Los Angeles County General Hospital. This form of allergic sensitivity accounts for many cases of chronic asthma and rhinitis in children and adults, and there is good reason to believe it is often a major factor in cases of persistent atopic eczema.

Statements in the literature, in textbooks and from practicing allergists show a good deal of divergence of opinion as to the proper dose of house-dust antigen to use in treatment. Feinberg[1] for example suggested that the use of a potent extract such as Endo house-dust antigen begin at 1:1,000,000 or 1:100,000 dilution and be increased as high as 1:40; "the chance of obtaining good results is usually much better when attempts are made to reach a maximal dose," he said. Hansel[2] on the other hand advocated much greater dilutions, in the range of 1 to a million million to 1:1,000,000 in cases of severe asthma.

The study here reported was undertaken to see what difference could be demonstrated in clinical results between two groups of children equally sensitive to house dust, one of which was treated with the weakest dilution of this antigen used in our clinic, the other with the strongest. This represents a 10,000-fold difference in amount of injected antigen.

SUBJECTS

Sixty-two children attending the Allergy Clinic cooperated in this study—32 receiving the low dose of antigen, 30 others the high dose. Children were assigned more or less in rotation to the two groups, with minor variations to keep the two groups as closely comparable as possible. The pertinent characteristics of the two groups are given in Table 1. Only children responding primarily to house-dust antigen on scratch and intradermal tests were included in this study. Forty children gave 4-plus reactions, 19 gave 3-plus, and three gave 2-plus when tested intradermally with Endo house-dust antigen at 1:1,000 dilution. Six children reacted moderately to other inhalant household allergens, and 13 reacted slightly or moderately to one or more pollens. None of the children had typical pollen allergy alone, though three had spring or summer exacerbation of chronic allergic rhinitis.

PROCEDURE

Severity of the asthma before treatment was judged in terms of hospitalization for acute attacks, the amount of medication required, interference with school attendance, and physical evidence of dyspnea and its results. About 70 per cent of the subjects were considered to have severe (4-plus) symptoms before starting treatment.

During treatment, the patients' clinical state was graded weekly: A rating of 0 indicated there was no asthma and no treatment other than routine desensitization injections; 1 indicated occasional mild attacks that did not limit activity and were treated with minor oral medication; 2 indicated some interference with normal activity, and 4 designated severe asthmatic attacks. From these ratings, an average was compiled by totaling the rating figures and dividing by the number of visits. This average,

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compared with the patient's own estimate of improvement, was the basis for the overall assessment of results.

Endo house-dust extract was used in treatment. This extract is prepared from mixtures of house dust collected in various parts of the country. The active material is concentrated by precipitation and standardized biologically for reasonable uniformity from batch to batch. Children on low dosage were given weekly injections of .05 cc. of 1:1,000,000 dilution throughout the study. Children on high dosage were started on the same amount, but the dose was increased to .05 cc. of 1:100 dilution in 18 to 24 weekly steps. The rate of increase was governed by individual tolerance. Local reactions to increasing doses occurred frequently, but none was severe enough to stop treatment. The final dose of .05 cc. of 1:100 dilution was continued throughout the period of treatment.

The effect of treatment was counted from the third month of low dosage, and in the high-dose group from the time a 1:1,000 dilution of dust antigen was reached. The average duration of treatment was 16 months for the low dosage, 18 months for the high. All the children on high dosage tolerated the 1:100 dilution, except one who began to have asthma following each injection after nearly a year on treatment, and therefore was reduced to low dosage, on which he did well.

For the sake of comparison, five other children who had been receiving high dosage were reduced to low dose for a considerable period, and for four others the dosage was increased from low to high.

RESULTS

As indicated in Table 2, good to excellent results were obtained in 73 per cent of the asthmatic patients on low dosage, and in 78 per cent on high dosage. For all patients, including those with rhinitis, the figures were slightly higher—75 per cent good to excellent results on low dosage, 80 per cent on high dosage. Thus a slight advantage might be ascribed to high dosage, but in so small a group it is doubtful, in view of the variables involved, that the difference is significant. When all cases on each regimen are compared, there appears to be no real difference in the therapeutic result. Further analysis revealed no difference that might be ascribed to the age at which treatment was begun, the severity of symptoms before treatment, or the degree of sensitivity to dust antigen. As noted above, the results with the five children shifted from low to high dosage was exactly the same as for the five shifted from high to low dosage: Four were unaffected, one was slightly worse.

TABLE 1.—*Characteristics of Two Groups of Children, Sensitive to House Dust, Treated with Low and High Dosage of House-Dust Extract*

	Low-Dose Group	High-Dose Group
Diagnosis:		
Asthma	26	21
Asthma and allergic rhinitis	4	6
Allergic rhinitis	2	3
Total cases	32	30
Sex distribution:		
Boys	21	18
Girls	11	12
Severity of major complaint:		
++++	22	24
+++	8	5
++	2	1
Age at start of symptoms:		
Range	1 to 9 yr.	1 to 11 yr.
Median	2 yr.	2 yr.
Age at start of treatment:		
Range	3 to 11 yr.	3 to 11 yr.
Median	7 yr.	8 yr.
Median duration of major complaint	5 yr.	5 yr.

TABLE 2.—*Results in 62 Children Sensitive to House Dust Who Were Treated with High and Low Dosage of House-Dust Extract*

Diagnosis and Clinical Result	Low-Dose Group		High-Dose Group	
	No. Cases	Per Cent	No. Cases	Per Cent
All asthma cases:				
Excellent	7	23	5	19
Good	15	50	16	59
Fair	6	20	4	15
Poor	2	7	2	7
All cases:				
Excellent	7	22	7	23
Good	17	53	17	57
Fair	6	19	4	13
Poor	2	6	2	7
Duration of treatment:				
Average	16 mo.		18 mo.	
Minimum	8 mo.		8 mo.	
Maximum	24 mo.		24 mo.	

The three children who reacted to pollen tests as well as to dust, and who were subject to seasonal exacerbation of symptoms, were noticeably better during their bad seasons even though treated with house-dust antigen alone—presumably because their overall allergic load was decreased.

DISCUSSION

It is apparent from these observations that, in the range of doses used, there is no direct relationship between the amount of dust antigen given and the therapeutic result. That is, greatly increasing the amount of antigen does not increase the degree of relief significantly. This may be due to the fact that the smaller amount of antigen saturates the antibody-producing mechanism, so that any larger amount is not utilized. The response to very much smaller amounts of antigen, in the order of several millionfold dilutions of the standard extracts, is now being measured on a new group of dust-sensitive children. This may show the degree of response as related to the antigen at various dosage levels and the saturation point at which response does not increase with an increase in dosage.

Approximately one-quarter of the children did not respond well to desensitization. It may be that they have a much higher requirement of antigen, or they may be deficient in forming "blocking antibody." Further work is necessary to show how antibodies against dust are produced.[3] It was also apparent from the records of these and other children not included in the study that in most cases where improvement was not obtained, treatment had been irregular or infrequent. Regular injection treatment at weekly or bi-weekly intervals appears to be of considerable importance in controlling dust sensitivity.

Reports on treatment of pollen-sensitive patients indicate that best relief is obtained by the use of as large an amount of antigen as the patient can tolerate.[4] The different behavior of the dust antigen may be due to its nature as a polysaccharide. Polysaccharide antigens from bacteria are known to remain in the body and be antigenically active for long periods. The same concept may be extended to the dust antigen. If the body cannot destroy this readily after injection, small amounts given frequently could soon produce a reservoir adequate to stimulate maximal production of blocking antibody.

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Social Security Footnotes

SINCE BISMARCK introduced socialized medicine in Germany three-quarters of a century ago, the threat of socialized medicine through the extension of so-called social insurance has been ever-present in western civilization. One nation after another has succumbed to the drive to extend the compulsory system of taxation called social insurance to finance a vast program of medical and hospital care for taxpayers and nontaxpayers. The history of developments in this field in foreign countries should alert the medical profession to the usual consequence of federal social security program.

—From the Department of Public Relations, American Medical Association

Resuscitation of Newborn Premature Infants

A Clinical Study of the Use of Positive Pressure Respiration

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• The Goddard-Bennett-Lovelace hand resuscitator was used for initiating respiration in 87 newborn infants with respiratory difficulties, during a five-month period at the Los Angeles County General Hospital. On alternate days, when the respirator was not used, 126 comparable infants received resuscitation by mouth-to-tracheal pressure and other means. Neither term infants nor previable infants benefited by use of the hand resuscitator, but premature infants weighing more than 1,000 gm. had a definite advantage, with a mortality of only 13 per cent for those treated with the resuscitator against 34 per cent among the controls.

Neither roentgen nor postmortem studies of the lungs disclosed any consistent effect of any resuscitative measure employed.

POSITIVE PRESSURE is being widely used in resuscitation of the newborn. The simpler methods—mouth-to-mouth or mouth-to-catheter breathing—are thought to be hazardous because the pressure is uncontrolled and may easily be excessive, and because the infant's respiratory tract is unavoidably contaminated. Tracheal catheterization itself adds another danger unless done by a skilled operator, especially if the infant is very small. Most of the positive pressure resuscitators that are commercially available use pressures of less than 20 cm. (water). According to Day and co-workers,[3,6] a pressure of 40 to 60 cm. is necessary to expand the newborn atelectatic lung, and is safe if applied for no more than 0.2 to 0.5 second. Other investigators have demonstrated that positive pressure applied within these limits, and with a controlled volume of air, is clinically safe.[1,4] However, there has been no controlled study to demonstrate the value of such resuscitation for asphyxiated newborn infants, although respiratory difficulty causes 30 to 50 per cent of the deaths among newborn infants and at least 50 per cent among premature infants, many of whom have no other serious abnormality.

At the Los Angeles County General Hospital the authors attempted to evaluate the use of the Goddard-Bennett-Lovelace (GBL) infant hand resuscitator, with which the operator, after brief experience, can learn to regulate the duration of the positive pressure impulse within the safe range of 0.2 to 0.4 second. According to the inventors, the lung alveoli

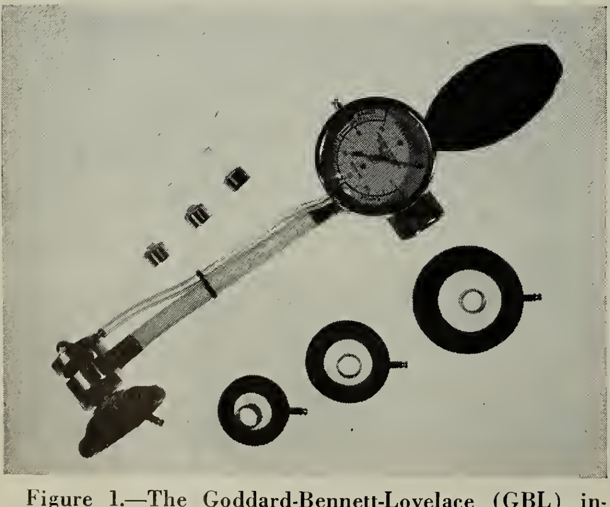

Figure 1.—The Goddard-Bennett-Lovelace (GBL) infant hand resuscitator. Tracheal catheter attachments are pictured to the upper left of the resuscitator and additional masks to the lower right.

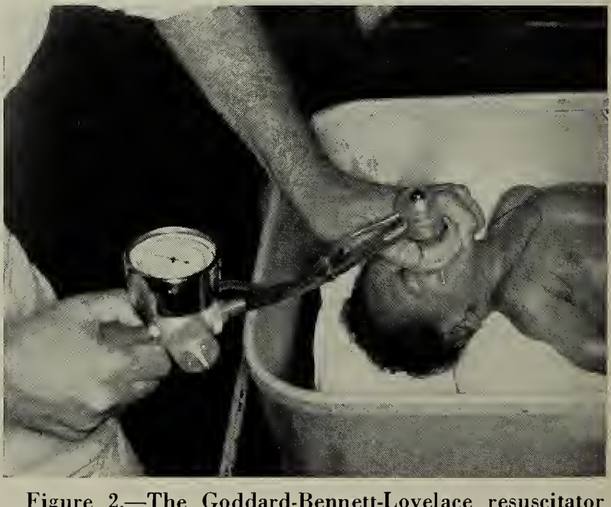

Figure 2.—The Goddard-Bennett-Lovelace resuscitator in use. Note the hyperextension of the infant's head and the tight fit of the mask.

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of newborn infants can be uniformly expanded by a pressure of 60 cm. (water) applied for 0.2 second. Overexpansion, they found, was not microscopically evident until a pressure of 80 cm. had been applied, and gross rupture might occur at 95 cm.[4] Among the 21 infants in one study[5] who were examined postmortem after unsuccessful treatment with the GBL respirator, only one had lung damage due to overexpansion—and in this case positive pressure at 60 cm. of water had been used for an hour after death in an attempt to revive the infant. In practice, pressure this high is needed only for initial expansion of the lungs; once they are partly expanded, much lower pressure is adequate.

Emphasis should be placed not on the degree of lung expansion obtained by any method, but rather on establishing an adequate air exchange by whatever degree of expansion makes this exchange possible. In many newborn infants who have apparently begun to breathe normally, roentgen or postmortem study may reveal some neonatal atelectasis. Wilson[9] has called attention to another danger difficult to determine clinically: If a large proportion of the lung is unexpandable because of pronounced atelectasis, accumulation of fluid or obstruction, there is greater risk of rupturing the lung with positive pressure.

EQUIPMENT AND USE

The Goddard-Bennett-Lovelace (GBL) infant hand resuscitator* is intentionally a simple device consisting of a hand bulb, positive pressure gauge, a pressure control knob, an oxygen or room air inlet and a mask or tracheal catheter attachment (Figures 1 and 2). A practice meter is also included so that the operator may become accustomed to deliver a machine-determined pressure over a time interval of 0.2 to 0.4 second.

The obstetrical residents used the apparatus only as a resuscitator and only within the delivery rooms. It was not used after the immediate newborn period in the nursery wards. The operators were instructed to use oxygen at high concentrations, on the principle that in brief application the lifesaving value of oxygen is more important than the remote possibility of influencing retrolental fibroplasia. A flow of 10 liters per minute was estimated to provide an oxygen concentration of 60 per cent. A pressure of 40 to 60 cm. water was applied intermittently at 40 to 60 impulses per minute (within the 0.2 to 0.4 second limit), and after each three minutes the treatment was interrupted for from 30 seconds to a minute. After 5 minutes, total time, pressure was reduced to 20 to 30 cm.

PLAN OF STUDY

The controlled study was designed to demonstrate what value the infant resuscitator might have when used in addition to standard methods of resuscitation. Control and experimental periods consisted of alternate 24-hour intervals in all delivery wards except the isolation and prison wards. Standard methods for treatment of asphyxiation in the newborn were used in both periods, the only difference in the experimental periods being the use of the resuscitator. As far as possible, rotation of obstetrical residents assured that professional competence was equal for the alternating periods, but no resident used the respirator until he was practiced with it. Most of the residents worked in both the control and the experimental periods.

All infants included in this presentation were liveborn. Any infant requiring further stimulation to breathing than ammonia whiffs and oxygen was considered to have had resuscitative therapy. Routine care immediately after delivery included warm blanketing, nasal and pharyngeal aspiration by bulb syringe, and postural drainage. In addition, at the resident's discretion, postural drainage might be prolonged, the trachea aspirated, mouth-to-tracheal pressure applied by catheter, and stimulants administered—ordinarily caffeine or epinephrine, but sometimes Nalline® as an antidote to morphine or its derivatives administered to the mother before delivery. All infants receiving any kind of resuscitative therapy were given penicillin and streptomycin parenterally for three days*; otherwise, their care was routine unless other conditions required treatment.

RESULTS

During the five-month period of the study, 3,087 children were born on control days, 2,642 on experimental days. In each group there was a normal proportion of premature deliveries—281 among controls, 246 among the experimental group. The distribution of weight was also normal (Table 1). Of all the infants in the study, 213 or 3.7 per cent required resuscitation. This is a low proportion compared with those reported from other hospitals, but the disparity may be due to differing definitions of resuscitation. In the control group, 82 term infants and 44 premature needed resuscitation; in the experimental group, 59 term infants and 28 premature (Table 2).

One discrepancy appears in comparing the control and experimental groups among premature infants weighing more than 1,000 gm. (Table 3). Among the 267 controls, 41 (about 15 per cent) were considered in need of resuscitation. For the 237 in the experimental group, only 24 (a little over

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*Manufactured by V. Ray Bennett and Associates, Inc., 320 S. Robertson Blvd., Los Angeles 48.

*Penicillin and streptomycin are now not given routinely in these circumstances.

TABLE 1.—*Incidence of Premature Infants in Each of Four Weight Ranges at Los Angeles County General Hospital During Respirator Experimental Period*

Weight in Grams	Number of Premature Infants Control	Number of Premature Infants Experimental*	Chi^2†	P†
1,000 or less	14	9	1.398	0.24
1,001 to 1,500	23	22		
1,501 to 2,000	58	59		
2,001 to 2,500	184	155		

*Two other infants in the control group and one in the experimental group were not weighed and are not included in this tabulation.

†Mathematical method of determining probability (P).

10 per cent) were so treated. It appears quite likely that some factor in the experimental situation deterred the residents from employing resuscitation so freely when the resuscitator was available as when it was not.

A significant improvement in survival was obtained by use of the respirator on premature infants weighing more than 1,000 gm. (Table 4). Among the 41 controls, 14 (34 per cent) died; among the experimental group, only 3 out of 24 (13 per cent).* There is only one chance in about 17 that this difference between the groups was accidental.

No such benefit was demonstrated for term infants (Table 5). Of 82 in the control group treated by respirator, 9 (11 per cent) died; of 59 in the experimental group, 8 (14 per cent) died. In these small numbers the difference is not significant.

Nor were the chances of previable infants improved by use of the respirator, which did not save any of these infants on whom it was used.

Quite obviously, resuscitation methods could not be sterotyped in either the control or the experimental groups. An attempt to subdivide the groups according to the various methods employed would result in a number of categories, none of which could be legitimately compared with the others. The proportionate use of these methods was largely dictated by the sequence in which they were applied until spontaneous breathing was established (Table 6).

As might be anticipated, a high proportion of the infants requiring resuscitation had been affected by maternal and obstetrical abnormalities, and there was high morbidity in the neonatal period—congenital malformations, associated birth injuries, and illnesses severe enough to require hospitalization in the first three months of life. Thirty-two such cases were counted, but the number was probably larger, for return of patients for examination after discharge is notoriously poor in county hospitals.

Neither roentgen nor postmortem studies of the lungs revealed any consistent effect of positive pres-

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*All deaths in this study occurred in the first week of life.

TABLE 2.—*Attempts at Resuscitation of Term and Premature Infants at Los Angeles County General Hospital During Respirator Experimental Period*

	Number of Cases	Number Treated	Chi^2†	P†
Term Infants:				
Control	2,806	82	1.056	0.36
Experimental	2,396	59		
Premature Infants:				
Control	281	44	2.033	0.16
Experimental	246	28		

†Mathematical method of determining probability (P).

TABLE 3.—*Attempts at Resuscitation of Premature Infants Weighing More Than 1,000 Grams*

	Number of Cases	Number Resuscitated	Chi^2†	P†
Control	267	41	3.056	.08
Experimental	237	24		

†Mathematical method of determining probability (P).

TABLE 4.—*Mortality Among Premature Infants Weighing Over 1,000 Grams for Whom Resuscitation Was Attempted*

	Number of Cases	Number of Deaths	Chi^2†	P†
Control	41	14	3.673	0.06
Experimental	24	3		

†Mathematical method of determining probability (P).

TABLE 5.—*Mortality of Term Infants for Whom Resuscitation Was Attempted*

	Number of Cases	Number of Deaths	Chi^2†	P†
Control	82	9	0.223	0.65
Experimental	59	8		

†Mathematical method of determining probability (P).

TABLE 6.—*Types of Resuscitation Techniques Used During Experimental Period*

Types	Number	Per Cent
Control period (126 patients):		
Tracheal catheter	114	91
Stimulants	41	32
Artificial respiration	9	7
Experimental period (87 patients):		
GBL‡	67	78
With tracheal catheter	30	....
Without tracheal catheter	37	....
Tracheal catheter (without GBL)	15	17
Stimulants	18	21
Artificial respiration	9	10

‡Goddard Bennett-Lovelace resuscitator.

sure respiration by any method employed. Of the 103 chest films made, 70 per cent showed the lungs normal. Certain infants who had been treated with the respirator for long periods or at relatively high pressures had no roentgen signs of overexpansion; for example, of three infants treated for 15 minutes at 40 to 50 cm. (water), only one had what was thought to be slight overexpansion. Of four others who had received a pressure of 60 cm., two had an essentially normal roentgen appearance of the lungs; one (treated for only a minute) had "patchy atelectasis" and overexpansion of the thoracic cage; in the other, after 10 minutes' resuscitation, expansion was still decidedly incomplete. In the control series, likewise, the roentgen appearance did not correlate well with the length of time that mouth-to-trachea pressure had been applied by catheter. No roentgen study disclosed any evidence of pneumothorax or of mediastinal or subcutaneous emphysema. All these films were studied by a single roentgenologist who had no information as to the type of resuscitation employed.

Postmortem examination of the lungs revealed dangerous overexpansion in one infant, who had rupture of the visceral pleura after 45 minutes of positive pressure with the respirator. The primary cause of death was extensive atelectasis and hyaline membrane formation. This child did not breathe spontaneously at any time, and resuscitation had been continued until the heartbeat ceased. Other postmortem studies indicated that positive pressure of any type could result in overexpansion of certain portions of the lungs. Infants who had had difficulty in beginning respiration, with or without positive pressure treatment, had patchy areas of atelectasis and interstitial emphysema. Subpleural emphysema was found in some who had had either orotracheal or mechanical pressure treatment for periods of a minute to an hour.

DISCUSSION

Theoretically, a premature infant weighing over 1,000 gm. should benefit most from improved resuscitation techniques, since faulty aeration is frequently the only problem. Term infants requiring resuscitation may have major disorders causing the respiratory difficulty, or may have severe asphyxia related to birth processes. Premature infants weighing 1,000 gm. or less may be arbitrarily considered previable, since many are biologically unable to support life in an extrauterine environment regardless of the type of resuscitation. The findings in this study agreed with these theoretic considerations.

An interesting observation is the more frequent use of resuscitation in the control group of infants. After reviewing the individual cases, the authors believe that more resuscitation occurred in the control periods because the residents had more flexibility of schedule. For example, on control days, the residents could administer a stimulant if the infant seemed only slightly depressed. The residents in the experimental periods, on the other hand, were encouraged to use the resuscitator as soon as possible and to avoid other methods until after the resuscitator had been used. Therefore infants who were thought to be merely "sleepy" were usually not resuscitated although if they had been seen in the same condition on a control day, they might have been given stimulants. In practice, therefore, since there was a tendency in the control periods to resuscitate infants who were in less need of resuscitation, the advantage in survival rate of the experimental resuscitated group becomes more striking.

If an easily used resuscitator offers an advantage in a large maternity center where the medical staff is prepared for emergency situations and is well trained in the use of current resuscitation techniques, such a resuscitator might be expected to be even more advantageous in a small hospital where resuscitation is an unusual and consequently a less efficiently managed procedure.

241 North Figueroa Street, Los Angeles 12 (Wilson).

Acknowledgment: Mr. V. Ray Bennett generously lent us the resuscitators used in the study.

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Musculoskeletal Complications of Hemophilia

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• Persons with hemophilia may be crippled by hemorrhages into soft tissue, the pressure destroying nerve and muscle. Recurrent bleeding into joints produces severe arthritis with synovitis and damage to cartilage and bone. The resulting deformities, even of long standing, may be greatly lessened, so far as impairment of function is concerned, by conservative orthopedic treatment. Treatment also may slow the progress of crippling deformities.

MANY PHYSICIANS rarely see hemophiliac patients. When they do, they apparently tend to undertreat them, lest they do more harm than good. This paper presents nothing new, but is a review of musculoskeletal problems associated with hemophilia that have been observed by the author and a report on how these problems were dealt with. The joint destruction, the contractures and the paralysis of hemophiliac patients resemble arthritis, club feet and poliomyelitis and are often amenable to the same care. Surgical treatment, of course, is out of the question, but conservative orthopedic measures are sometimes a boon.

Several investigators—Ghormley and Clegg,[6] Thomas,[14] Caffey and Schlessinger[2] and others*—have written excellent reviews of the problem of hemophilic arthritis, but that their work may not be sufficiently well known is indicated by the number of patients observed with crippling deformities which have never been treated, although they might have been held to lesser degree had they been dealt with in the early stages. Indeed, many such patients have improved significantly even with delayed care.

There are 242 hemophiliac persons registered with the Southern California chapter of the Haemophiliac Society. One hundred and ten, or 45 per cent, are patients with musculoskeletal disorders resulting from the disease. It is with them that this paper is concerned. With the exception of one case of paraplegia, which occurred subsequent to a spinal puncture, I have not seen involvement of the spine, and my experience has been entirely with disorders of the extremities.

The problems are both acute and chronic, the latter being the more difficult to manage over a long period.

ACUTE PROBLEMS

Hemorrhage

Control of bleeding by reducing the clotting time is an emergency measure.[16] Hemorrhage can arise spontaneously as well as from various degrees of trauma. Hematologists do not agree upon details of measures necessary to reduce the clotting time. In the majority of cases I administer Hyland Laboratories' antihemophilic plasma in a dose of 1 to 2 cc. per pound of body weight. In 1956, 2,041 liters of plasma and 174 units of whole blood were administered to hemophiliac persons registered with the Haemophiliac Society in our area, including those with visceral bleeding. Plasma is supplied without charge to all patients. Those living at a distance keep it in their refrigerators for administration by a local physician.

Fractures

Fractures are treated by the orthodox methods of traction, splinting and casting. Sometimes breaking a bone causes more bleeding in a hemophiliac than in a normal person, but usually the hematomas are not large as compared with some of the larger ones that occur in soft tissue after considerably less trauma than that needed to break a bone. Theoretically, traumatic damage to tissue engenders a substance necessary in clotting.[5]

Hematomas associated with fractures in hemophiliac patents should not be aspirated or evacuated, for the puncture or incision would be hazardous. Circular casts are not applied until swelling has subsided and early healing of the bone is established. Open reduction is out of the question; deformity is more acceptable. Bone healing occurs at a normal rate, usually with abundant callus.

Soft Tissue Bleeding

Bruises often remain small but can grow insidiously into enormous crippling hematomas, and each one must be watched. Patients gain experience with their own bleeding problems, which differ in each case and at various times. They often can forecast quite accurately the likely extent of a hemorrhage.

Presented before the Section on Orthopedics at the 86th Annual Session of the California Medical Association, Los Angeles, April 28 to May 1, 1957.

From the Department of Surgery (Orthopedics), University of Southern California School of Medicine.

*7,11,12,13,17

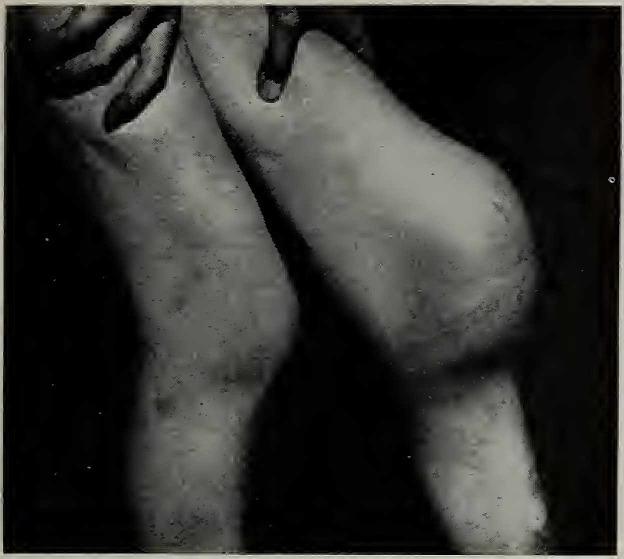

Figure 1.—Swollen knee resulting from recurrent intra-articular hemorrhages. Note striae.

It is to be emphasized, however, that, when doubt exists, efforts to stop the bleeding should be started immediately. In addition to lowering the clotting time by the administration of antihemophilic plasma, these measures consist of absolute rest of the part and packing the area of hemorrhage in ice. This is best done in the hospital where the swelling can be observed and nursing care and drugs are available for control of pain and restlessness.

Bleeding into Joints

Minor leakage of blood into a joint is rare. When hemorrhage develops in a joint the joint usually distends to full capacity until the intra-articular pressure is as high as the systolic pressure and no more blood can be pumped in. More may leak in, however, as the initial hemorrhage absorbs, a process which may continue indefinitely.[8] Patients with intra-articular hemorrhages should be put in hospital for care in order to minimize permanent damage (see Figure 1). Bleeding into a joint is usually very painful, a symptom useful to distinguish it from the lesser discomfort of the relatively less serious bleeding adjacent to a joint.

Deformity also requires treatment. I use plaster shells for elbows, wrists and ankles, splinting the elbow at a right angle, holding the wrist in the position of function and splinting the ankle at a right angle to prevent foot drop. For hip and knee joints, Russell traction or Buck's extension is used, the patient wearing a padded tennis shoe. Traction should not be used to try to correct the contracture but should pull in the line of the deformity and be adjusted daily as muscle spasm subsides.

Even though recognizing that the presence of free blood in a joint may do severe damage to it, I consider aspiration in such circumstances unwise, for the trauma of the needle may produce further bleeding even after the clotting time has been brought to normal. I have not had experience in the injection of hyaluronidase in an effort to speed absorption of blood.[1,9]

Addiction to Narcotics

As with many chronic diseases, the danger of addiction is always a factor in dealing with the painful concomitants of hemophilia. Many hemorrhages, particularly intra-articular, are so painful as to make the use of narcotics necessary for relief. Some of the patients I have treated were already addicted when first observed, narcotics apparently having been the only previous treatment.

THE PROBLEM OF CHRONIC DISABILITY

The chronic disabilities of hemophilia—muscle weakness and paralysis, contractures, synovitis and degenerative arthritis — are a major orthopedic problem.

Weakness and Paralysis

Muscle weakness arises either because of nerve damage resulting from pressure of a hematoma in a closed fascial space or from disuse of an extremity. I treat it as though it were the muscle weakness of poliomyelitis, using electrical stimulation and exercises to restore strength, and braces for support and the control of antagonists. The quadriceps is the most commonly weakened muscle, usually as the result of chronic hemophilic arthritis in the knee joint but sometimes because of damage to the femoral nerve by groin hemorrhage. Volkman's contracture and peroneal palsy sometimes occur.

Contractures

Contractures of hips, knees, feet and ankles respond well to traction, braces and, occasionally, wedging plasters, along with muscle reeducation. Gentleness is essential. These joints will bleed if quickly forced. The knee is the most frequently involved (Figure 2). I have used adjustable long-leg braces successfully to overcome knee joint flexion contractures of long standing. The patient is permitted to walk despite the deformity, but a posterior bar on the brace blocks further flexion while the leverage of the brace gently urges further extension with each step. As the contracture diminishes, the brace is adjusted gradually until the knee reaches full extension, when free motion is started.

Improvement can be brought about in "frozen" shoulders by using the customary measures of x-ray therapy to control pain, then heat, massage, stretching and exercise.

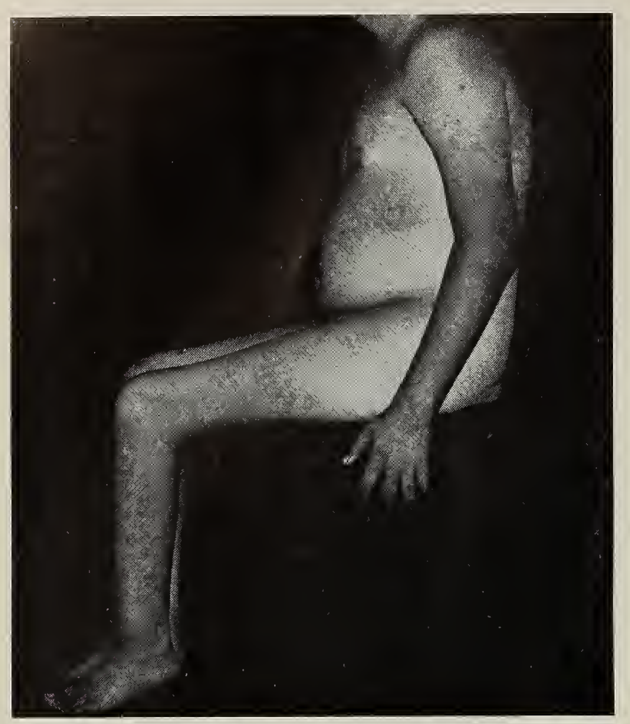

Figure 2.—Fixed knee flexion contractures resulting from untreated recurrent joint bleeding.

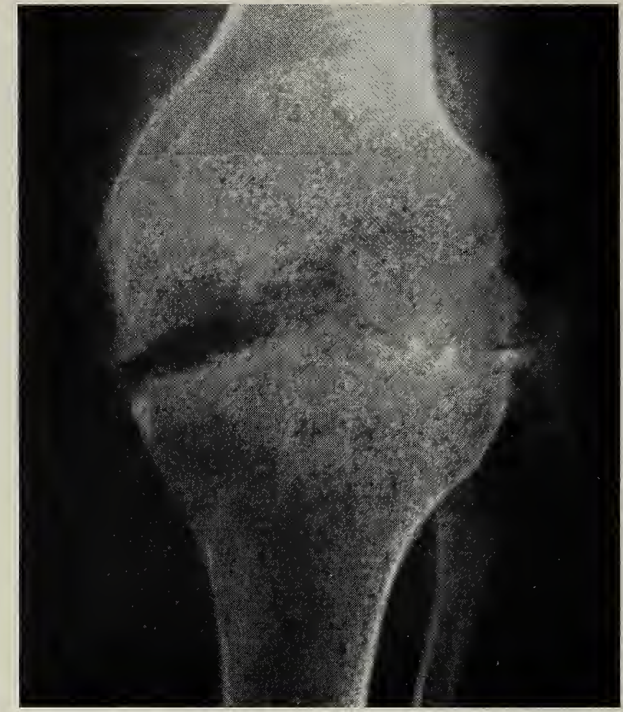

Figure 3.—X-ray film showing advanced hemophilic arthritis of knee in a 14-year-old boy, characterized by erosion articular surface, lipping of joint margins, subchondral bone cysts.

Synovitis

Unfortunately, the majority of contractures are complicated by various degrees of synovitis and articular damage resulting from a series of hemorrhages. The prognosis for full recovery of these joints is poor, but worthwhile functional improvement can be obtained.

Experimental evidence has been reported that synovial hyperplasia[10] and subsequent hemovillous villonodular synovitis[18] can result from repeated hemorrhage. Hyperplastic synovitis can be reduced, but treatment has been disappointing in the few patients suspected of having villonodular synovitis with whom I have dealt. Treatment of arthritic joints is the treatment of the contractures plus an attack on the synovitis. For this I use hydrocortone intra-articularly, x-ray therapy and prednisone (Meticorten®) by mouth. The number of patients so treated is too small for statistical conclusions, but the results of all three forms of treatment have been encouraging.

Hydrocortone is injected intra-articularly, after the clotting time has been reduced to normal by infusion of plasma. This produces significant relief of pain and clinical improvement in synovial thickening and fluid. It has not restored a joint to normal in any case observed.

X-ray therapy has produced varying degrees of improvement in about 80 per cent of patients with chronic synovitis. It has been particularly helpful in reducing the swelling and pain and increasing the range of motion in elbow joints. The clinical improvement, however, has not always been as evident as the patient's gratifying relief from pain. Lest epiphyses be damaged, x-ray therapy has been reserved for adults only.

I have used oral Meticorten in 14 patients with multiple joint involvement. All of them have reported decided diminution of pain and improvement in their sense of well-being. Moderate improvement in the joints has been observed clinically. How long Meticorten therapy can be continued and precisely what the dose should be cannot be said as yet.

Osteoarthritis

Although we have no method of direct attack on damage already done to bone and cartilage,[3] treatment of weakness, contractures and synovitis often can restore a badly damaged useless joint to useful function. I believe treatment of this kind also can decrease the rate of further degeneration. I believe that treatment of the acute episodes of hemorrhage and care of the deformities will at least postpone crippling.

The roentgenographic appearance of osteoarthritis (Figure 3) sometimes resemble the changes seen in rheumatoid arthritis and tuberculosis. Typically, there is narrowing and roughening of the joint spaces, increased opacity of the soft tissues due to deposition of iron pigments, osteoporosis, epiphyseal cysts and spurring at the epiphyses.

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Brain-Damaged Children

The Problem of Relations in the Family Group

EDMUND F. WALKER, *M.D.*, and DAVID L. KATZ, *M.A.*, Los Angeles

• Children with minimal brain damage show a characteristic pattern of behavior.

Often there are no physical signs of abnormality, but the diagnosis can be made from the history, electroencephalographic tracings, psychologic tests and repeated observations.

The behavior is a composite of the effects of the brain damage and the response of the child to his environment. The behavior of the brain-damaged child is frequently so frustrating to parents that attitudes of rejection, withdrawal or excessive punitive measures occur.

In the present study, when drugs were given and the child's behavior improved, the parents were better able to understand the needs of the child and create a better home environment in which there was less frustration and emotional pressure.

INCREASING ATTENTION has been centered recently on children's behavior disorders which are the result of damage to the brain. The rapid progress of late in neuropharmacology, neurophysiology and neurosurgery give promise that this will be more than a mere matter of academic interest and will lead to the organization of a more effective treatment program. No one would deny that the brain is the organ of the mind, and few would deny that a better understanding of the various functions and processes of the brain is basic to an understanding of mental functioning in health and in disease.

It is equally accurate to state that no behavior occurs in a social vacuum. Behavior and behavior abnormalities must also be understood in terms of the child's attempts to fulfill his normal physical, intellectual, social and emotional needs. The interplay between child and parents, child and school, siblings and peers, all make their contribution to the forces which produce his total behavior.

It is accepted that repeated or severe frustration in a child's effort to attain satisfaction for these needs will result in a series of defensive patterns which can range from a simple situational reaction to a psychotic break. A child's resources for attaining satisfactions for these needs come not only from his environment but equally come from within himself. This general formulation would apply as well to the adjustment of a child with brain injury as to the child without damage. From this point on, however, there are certain important differences existing in the child who has brain damage. These fall in three categories: (1) Certain of his needs are different and greater than with other children; (2) his capacities to attain satisfaction from his environment are decreased; (3) the symptoms he has tend to alter the attitudes of family, school, siblings, and playmates making it difficult or almost impossible for him to attain satisfaction in his relationships with this group.

In the present communication, attention will be limited to brain-damaged children who would be classified as having minimal injury.

While many of the behavioral deviations of a child with minimal brain injury have been ascribed to external environmental factors, there remains a group of children showing behavioral response of a specific type. This behavioral response is variable in its intensity, and the brain damage may be so minimal or benign as to be considered normal individual differences or ascribed vaguely to inherent constitutional characteristics. The behavioral syndrome of the child with organic brain disease has been adequately described by Bradley,[3] Bender,[2] Bakwin,[1] Milman[4] and others. Strauss and Lehtinen[5] carried out thorough and searching studies particularly in relationship to the educational problems and needs of these children.

From an objective standpoint, these children show motor disturbances, and impairment of fine coordination, tremors, or choreoathetotic movements, changes in gait, difficulty in visual convergence and disturbances in associated arm movements and balance. As to social behavioral patterns, they have varying degrees of distractibility, shortness of attention span, hyperactivity, explosive aggressiveness, lack of spontaneous affectionate behavior, and varying degrees of emotional constriction with fearfulness, suspiciousness or persecution or its exact opposite in a form of fearlessness and lack of concern over possibility of physical injury.

Presented before a Joint Meeting of the Sections on Public Health and Psychiatry and Neurology at the 86th Annual Session of the California Medical Association, Los Angeles, April 28 to May 1, 1957.

PRESENT STUDY

An analysis was made of the cases of 16 children who had minimal brain damage. The age range was from seven to eleven years. Children with gross, neurologic defects or gross mental deficiency were not included. Detailed histories of birth and early development were taken, particularly in reference to illnesses or injuries which might be etiologic. In six cases there was a definite history of birth trauma, in two of premature delivery and in four of cerebral concussion. Two of the children had had febrile convulsions in infancy and one had had erythroblastosis fetalis. These patients were selected from a larger group of brain-damaged children on the basis of their having shown a clear and definite response to administration of drugs as judged both by clinical observation and the reports of parents and school teachers.

The complaints made by the parents and the observations of the school teachers showed pronounced consistency. Distractibility was an almost universal complaint, neither teachers nor parents being able to get the child to attend to a particular task for more than a few moments at a time. Almost continuous hyperactivity—running, jumping, climbing and destroying objects in an exploratory way—was frequently noted. Most of the children showed a wild, aggressive hostility which was aroused on slightest provocation and was directed toward parents, school and other children with equal frequency. A frequent complaint of both of the parents was that of emotional coldness so that praise or punishment seemed to have little restrictive effect.

Complete neurologic examination was done in all cases. In ten cases the results were essentially normal; in six, varying signs of mild impairment were noted, the most consistent being slight incoordination, clumsiness in gait and difficulty in carrying out fine coordinated movements. Choreoathetotic movements were observed with some frequency and could be best elicited by having the child stand with eyes closed and hands extended in front. Rotation of the body in its long axis on passive turning of the head was often noted, but not with the frequency of the foregoing neurologic signs.

Detailed psychologic testing was done in all cases and the results were of consistent pattern. There was a range of gross intelligence quotient from 76 to 110, with most of the children between 85 and 105. Pronounced difficulty with problems which called for concentration and span of attention was noted. On the Wechsler-Bellevue intelligence test there was a frequent and often pronounced discrepancy between verbal and nonverbal I.Q. evaluations, the nonverbal scores sometimes falling 20 to 30 points below the verbal. The implication was of weakness in areas requiring eye-hand coordination, spacial orientation, visual perception, analysis and search for details.

The Rorschach test showed many perseverations in precepts, with the child, once having offered a certain kind of interpretation, persisting in it whether or not the form was applicable to the ink blot. At times the children would recognize their response to the cards as being inaccurate or would even question why they continued to make such wrong interpretations. Color responses to the Rorschach test were often uncontrolled and pointed to the excitability and "formless" behavior which the child carried out in his every-day life.

As to results of the Bender-Gestalt test, which calls for visual perception and acuity, there was decided consistency among the children. The representations of geometric figures were distorted, figures were fragmented and there were pronounced perseverative tendencies. Disturbance in spacial orientation and visual relationships was also evident in a tendency to rotate figures.

While diagnostic reliance was placed primarily on the tests mentioned, having the patients make drawings of the human body frequently presented additional or confirmatory evidence of the disturbance in the integrative process of the central nervous system. The pictures showed grossly distorted precepts, with geometric figures, box-like bodies and distorted head, hands or facial features.

Electroencephalograms were made of all of the children studied, and in 11 cases the tracings showed definite disturbance in cerebral functioning. There was considerable variation in the electroencephalographic pattern but the most consistent finding was that of a diffuse dysrhythmia with a preponderance of slow wave activity and occasional spiking occurring in the temporal and frontal leads.

All the children were observed at play for whatever length of time was necessary in order to see a consistent and repeating pattern of functioning. Rather frequently during the first one or two periods of observation it was noted that the children would be somewhat inactive, showing little of the characteristic behavior the parents had described; but as soon as they were familiar with and more at ease in the situation, deviant types of behavior occurred with increasing frequency. Since the behavioral reaction of the children at play showed a continuous repeating pattern with inner consistency from child to child, a report of a typical period of observation for one of the children will be made:

In the waiting room, a nine-year-old boy was sitting beside his mother. The mother was looking at a magazine, rather anxiously attempting to get him to look at the pictures in order to avoid what might be an embarrassing scene for her. On seeing me (Walker) he came bounding into the examining room, where he sat down in a chair and started to tell about the pet hamster that his parents had bought for him. But in the midst of this discussion his attention was drawn to the pencil and pad lying on my desk. He immediately dropped his remarks about the hamster which a few moments ago had been very interesting to him, and started to scribble on the pad. His movements had a quick and somewhat jerky quality. His attention then shifted to a set of plastic building-blocks and he started building a wall, as for a house. The wall leaned badly and, after several tiers of blocks were placed, it tumbled. The patient again began building the wall, again it fell. He did not recognize that the tilting of the wall was the reason for its collapse. After the third attempt, made in the same fashion and with the same outcome, he became flushed, obviously angry and knocked all the blocks to the floor, almost shouting that they were "no good." This general pattern of behavior was repeated through the period of observation—rapid shifting of attention and apparent difficulty in seeing the reasons for his failure in manipulation of mechanical objects. When he failed in these areas, his response was quick, impulsive, emotional and frequently indicating his feeling that the object that he was attempting to manipulate was at fault rather than his handling of it.

It is well accepted that the fundamental emotional needs of a child are affection, security, acceptance as an individual, a feeling of self-respect, achievement, recognition by peers, a feeling of independence, and ability to accept and live with authority. In a society such as ours where achievement forms a strong goal, the repeated failures of the brain-damaged child and the continuous frustrations to parents of seeing their children lag behind others in their own age group will strike strongly. The embarrassment over failure of the child as well as the genuine fear that the child might not be able to function satisfactorily as an adult, drives many parents into increasing their demands on the children, often enforcing these demands with punitive measures. While this serves as a means of releasing some of their feelings of frustration about the child, it is also done in part with the hope that increasing punishment will alter the child's behavior. Other parents when faced by their continuous inability to achieve certain goals for their children, will react by withdrawal and lack of emotional support.

We are sometimes too likely to think of a parent's relationship with a child as being an outgrowth of the parent's own inner psychic organization. The epigram, "There are no bad children, only bad parents," has been repeated often enough to focus attention on the parents' own underlying emotional problems as being a matter of great concern in treatment of a child with behavior problems. A neurotic person or one with a character disorder does not achieve an amelioration of symptoms simply by becoming a parent, and the symptoms of his own disorder will affect the child. However, a therapist must not become too engrossed in the parents' personality problems lest he underrate the effect of the child's behavior on the attitude of the parents.

During the preliminary period of study of the children in the present series, the parents were seen in a series of interviews by a psychiatric social worker. An assessment was made of the parents' attitudes towards the children, particularly in terms of the parents' understanding of the needs and problems of the child and of their feelings of acceptance and warmth. In only one instance did the parents have a genuine feeling of warmth and affection. The parents of two of the children overprotected them, over-restricted their activity and treated them as infants. Two other children were being reared in an environment of open hostility on the part of the parents. The parents of the remaining 11 children showed fluctuations between attitudes of rejection and efforts to isolate themselves from the children and the problems which their behavior produced.

During the interviews the primary topics brought up for discussion by the parents centered around the parents' feelings of annoyance or frustration, and very little time was given to consideration of the child, his feelings and his needs. Two weeks after the beginning of a chemotherapeutic regimen which brought about decided improvement in the behavior of the children, a great change was noted in the attitudes of the parents of 11 of the 16 children.

At this time there was a sudden increase of remarks indicating an interest in the children, an awareness of their problems and a sympathetic understanding of their difficulties. Concomitantly, there was a notable decrease in expression of opinions that the child's behavior was mean, willful, or purposefully used to embarrass or punish the parent. As to the parents who showed little change in attitude following the improvement of their child, two had psychoneurotic symptoms so severe that individual psychotherapy had been recommended for them. The parents of two other children were under so much pressure from pecuniary difficulties and physical illness that it was very hard for them to turn their attention away from their own pressing problems to the problems of the child.

Although parental attitude toward the children changed to some degree during the preliminary periods in which they were given an understanding of the organic brain syndrome and the particular problems of the child, the maximum change in attitude toward the children followed the children's change in behavior.

No attempt was made to make careful evaluation of differences in the effectiveness of various drugs used in the present study. Various drugs, including Dilantin® (diphenyl hydantoin), amphetamine, Benadryl® (diphenhydramine), phenobarbital, reserpine and chlorpromazine, were used. Excepting two children who showed a better response to chlorpromazine, Dilantin® seemed to bring about the greatest benefit. The observations as to Dilantin were similar to those reported by Walker and Kirkpatrick[6] in 1947. In several of the cases some further improvement occurred when amphetamine was given additionally, but this was not a consistent finding. At no time was a sufficient amount of any of the drugs used to cause daytime drowsiness. The primary changes noted after administration of drugs was started were a decrease in distractibility and hyperactivity and a decrease in sudden and violent, emotional outbursts.

The reactions of the parents to their own feelings of frustration over the symptoms of the brain-damaged child creates an environment in which the child is under continuous stress because of lack of acceptance by the family group. With regard to rejection, Bender[2] observed that in home settings in which the needs of the brain-damaged child are met, the damage-and-rejection syndrome does not develop in its entirety. While ordinarily the organic damage is not reversible, the manner in which the child develops reaction patterns directed toward his environment will be largely dependent upon the acceptance and support which he receives from the parents, school personnel, siblings and peers.

The increasing acceptance of a brain-damaged child by the parents enables them to give greater support, and to permit greater dependency when it is needed, without feeling that they are interfering with the child's progress; and it also permits them to continue this support until the child seeks emancipation from the overprotective environment. Praise and encouragement can be more freely given on the basis of the child's efforts and accomplishments without reference to what other children in the same age group are accomplishing.

While it is evident that the diagnosis of the organic brain syndrome in children with behavior disorders relieves many of the parents' feelings of guilt and would seem to permit them to shift responsibility for their children's behavior from themselves, at the same time it should be noted that as the children improve, the parents were willing to do more, to give more and to assume a closer relationship.

It was noted in the present study that while their better understanding of the symptomatology of the organic brain syndrome increased the parents' ability to create an environment conducive to feelings of security rather than of frustration for the child, behavior of the child himself seemed to play a large part in attaining these goals.

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CASE REPORTS

Gangrene of the Thigh Owing to Venous Occlusion

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GANGRENE caused by venous occlusion is rare. There have been no reports in the medical literature of gangrene occurring in the thigh alone; gangrene of this kind is preceded by "blue leg," or phlegmasia caerulia dolens. In about one-half of all reported cases of venous occlusion gangrene, amputation was required; and the mortality rate for all reported cases was about 25 per cent. The purpose of this report is to call attention to this unusual condition in which prompt treatment may avert tragic consequences.

REPORT OF A CASE

A 38-year-old Caucasian woman in her first pregnancy had cesarean section because of fetal-pelvic disproportion. The postoperative course was uneventful except for wound infection. Ambulation was started on the first postoperative day. Fourteen days after operation, the patient noted bluish discoloration and pain in the left thigh. As the day progressed the entire leg became quite blue. Edema of the thigh appeared first, followed in 24 hours by involvement of the entire leg. The involved extremity was slightly warmer than the other leg and peripheral vessels were normal. During the next four days the left foot and leg became more edematous and the bluish discoloration decreased. During this four-day period the extremity was elevated and Dicumarol (dicoumarin) was given in doses of 300 mg., 200 mg. and 150 mg. on successive days.

At 2 o'clock in the morning of March 29, the fifth day after discoloration had appeared, the patient was awakened by pain in the side of the left thigh. At the site of pain there was an oval area of discoloration which enlarged to diameters of 24 x 10 cm. This was ascribed at the time to a bleeding tendency, and on March 30, 1957, Dicumarol was discontinued and 50 mg.. of Mephyton® (vitamin K_1) was given intravenously. The clotting mechanism, as determined by platelet content and by bleeding and clotting time, was normal. Chymotrypsin was given intramuscularly, 0.5 cc. every eight hours for 11 days. Approximately five days after the onset of discoloration a black bulla appeared over the surface. Resolution of the bulla left an area of hard gangrene about 16 x 8 cm. (Figure 1). The patient's temperature rose to 100.6°F. The day before gangrene appeared, the prothrombin time was only 69 per cent of normal.

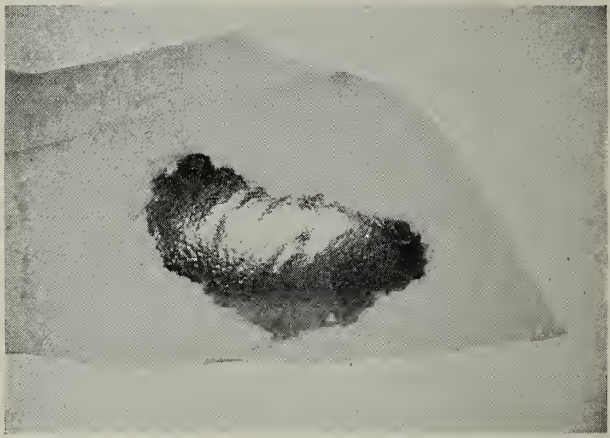

Figure 1.—Gangrene of the thigh owing to venous thrombi.

On April 9 the area of dry gangrene was excised. The subcutaneous tissue was much more extensively involved than the skin, the fat obviously necrotic and infiltrated with blood. The tissue was removed down to the tensor fascia lata, where the pathologic process ended. Upon examination of the tissues, complete thrombosis of all venous channels was noted. The arteries were intact without evidence of thrombosis. A portion of the operative site was closed primarily and the remainder with a split thickness graft. Four hundred thousand units of procaine penicillin was given intramuscularly every 12 hours for ten days. The area healed without complication.

DISCUSSION

Phlegmasia caerulia dolens, or "blue leg," is infrequently associated with phlegmasia alba dolens and is thought to be due to almost complete obstruction of the venous return. In reported cases, varying patterns of development were noted. In some instances the first sign of phlebitis was the appearance

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of a "blue leg," as in the present case. However, the most common pattern was the appearance of a "blue leg" superimposed on active phlebitis. The condition is associated with a great deal of pain and swelling. The lower leg is involved most frequently, although in 20 per cent of the cases reported the upper extremity was involved. In some instances the peripheral pulses were absent and there was early onset of gangrene, often thought at first to be owing to arterial occlusion. However, supported by studies of removed tissue, most authorities agree that the gangrene in these circumstances is due entirely to complete venous blocking, the arteries remaining intact. The area of involvement is primarily superficial tissues. The possibility that gangrene may complicate "blue leg" makes energetic therapy mandatory.

With complete thrombosis of the venous system, the arterial system functioning normally, the following physiologic changes occur: Arterial blood enters the affected area at normal arterial pressure but, due to venous obstruction, stagnation and hypoxia is progressive. Subsequently the noncolloidal and then colloidal elements extravasate, edema and discoloration resulting.

The use of anticoagulants in the treatment of this condition is universally approved. In cases in which blue discoloration of the extremity is the first sign of phlebitis, heparin should be administered until the prothrombin time is brought down to therapeutic levels by the use of thromboplastin depressant drugs. The use of paravertebral block has proved to be of doubtful value.

In addition to the usual methods of treatment for phlebitis, Veal[3] suggested the use of passive muscular exercises to prevent gangrene. The exercise he described was to elevate the involved extremity to 60 or 70 degrees, then rapidly extend and flex the foot and thigh in the hope that blood will be massaged through the venous system until the collateral vessels have had opportunity to develop. These exercises are done at short intervals until cyanosis disappears.

DeBakey[1] reported two instances in which patients were operated upon and a clot removed from the femoral vein. He expressed belief that this had prevented gangrene of the extremity. There have been no further reports on the use of this method.

Fisher and Wilensky,[2] reporting upon the use of trypsin parenterally for acute and chronic thrombophlebitis, noted accelerated subsidence of pain, heat, tenderness, edema, erythema, streaking leukocytosis and Homen's sign if present. Acceleration of the sedimentation rate subsided within two or three days. They postulated that the enzyme dissolves the thrombi. Various investigators, reporting on experiments with dogs, suggested that trypsin brings about increased size of lumen in thrombosed veins, but other observers were unable to confirm the occurrence. It is generally agreed that acute thrombophlebitis of less than three weeks duration responds more satisfactorily to trypsin therapy.

SUMMARY

A case of gangrene of the thigh, of venous origin, is presented. Recognition of serious implications of "blue leg" with prompt therapy may avert partial or total loss of the extremity.

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Paroxysmal Ventricular Tachycardia

A Case Study

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THAT EMOTIONAL STRESS is often a relevant factor in the etiology of certain kinds of cardiac arrhythmia has been ably documented by numerous observers[1,2,4,5,6,8] and is now widely recognized. Extrasystoles, sinus tachycardia, paroxysmal auricular tachycardia and paroxysmal auricular fibrillation have all been shown in certain instances to be significantly related to psychic stress situations, not only cases in which there is pathologic change in the heart but also when the heart is entirely normal structurally so far as can be determined by any test now in use.

The term, *emotional stress,* is rather broad and often loosely used. What constitutes stress for one person may have no such effect on another. Similarly, the terms *anxiety, hostility,* and *tension* are often used in a rather general way to describe psychic reactions which deserve more precise formulation.

The following case report is presented with the conviction that the specific psychodynamic factors described not only shed light on the genesis of cardiac arrhythmia in this particular patient but also have more general implications. The cardiac arrhythmia, in this instance, moreover, was of special interest because it was of a relatively rare kind—paroxysmal ventricular tachycardia, a condition usually assumed to be associated with severe organic

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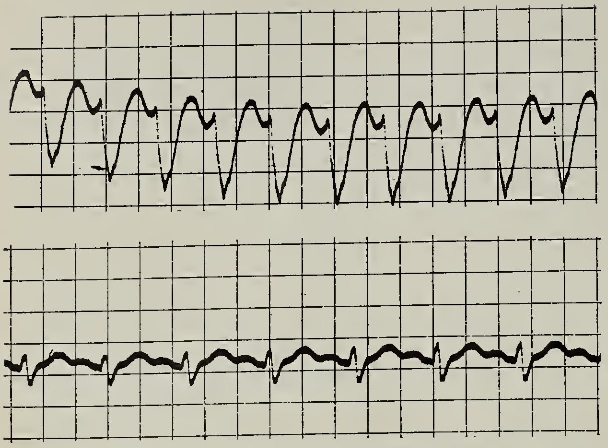

Figure 1.—At top, lead 1 in electrocardiogram showing ventricular tachycardia. Below, six hours after administration of quinidine and procaine amide hydrochloride, the rate was down to 150.

heart disease and recent myocardial infarction, and one in which, so far as the authors have been able to determine, psychological factors have not been considered particularly relevant.*

The patient, a tall, handsome man in his middle forties, was referred by a cardiologist with the following clinical history:

Eighteen months before consulting the cardiologist the patient, while leaning over to wash his face, became aware that his heart was racing at a rate which he calculated, from his pulse, at 300 a minute. A physician was called and he was treated with vagal stimuli without effect, and then was given quinidine which apparently stopped the attack in about four hours. An electrocardiogram made 13 days later was said to be within normal limits. Several months later, the patient had another attack, was taken to a hospital where the heart rate was found to be 280, and an electrocardiogram identified the rhythm as ventricular tachycardia (Figure 1). He was given quinidine and Pronestyl (procaine amide hydrochloride) and at the end of six hours the rate was down to 150. Seven weeks later he had another attack which was treated with quinidine given intravenously. The patient then was given 2.3 gm. of quinidine a day by mouth, but he continued to have attacks with gradually increasing frequency. It was at this point that he was referred to the cardiologist.

When seen by the cardiologist, results of physical and laboratory examinations were all within normal limits. The pulse rate was 66, the volume good and the rhythm regular. The blood pressure was 120/80 mm. of mercury. Heart tones were of good quality. There was a grade I, pulmonary systolic murmur. P_2 was louder than A_2. The heart was normal in size in all fluoroscopic views and the aorta appeared normal. Lung fields were clear. Peripheral pulses in the lower extremities were of good quality. X-ray films of the chest confirmed the fluoroscopic observations, and the total transverse diameter of the heart was observed to be 152 mm., well within the normal range for the patient's age and height. An electrocardiogram, including standard unipolar limb and unipolar chest leads, showed a tendency to low voltage in standard and limb leads and a QRS complex interval which was at the upper limits of normal. The cardiologist did not consider the electrocardiogram, in its entirety, to be outside normal limits, although he noted that some electrocardiographers might have interpreted it as showing intraventricular block.

Since the history strongly suggested that each of the episodes of tachycardia had been preceded by some emotional incident, it was recommended that the patient have psychiatric consultation. He was resistant to this suggestion, however, and instead sought another cardiological consultation in a different city. There he was given two gm. of Pronestyl and 40 minims of tincture of belladonna five times daily. Despite these heroic doses, he continued to have episodes of ventricular tachycardia which frequently required intravenous injection of Pronestyl for control. The patient then finally agreed, albeit reluctantly, to have psychiatric consultation, and then to undertake psychotherapy.

The following history gradually emerged in the course of psychiatric interviews. His parents were intensely religious, middle-western people. The father was a stern and harsh disciplinarian who frequently employed corporal punishment. The mother, a relatively weak and passive person, played a secondary role in the household, and was little source either of affection or emotional security to the patient. As a result, he grew up feeling contempt for her weakness, an attitude which he subsequently transferred to most other women. He always felt closer to his father, whose strength and power he admired even though he feared and resented it also.

His childhood and adolescent years were characterized by an attitude of intense rebelliousness against all the authority symbols in his life. He was a disciplinary problem at school and was in constant conflict with his father at home. At the age of 15, he ran away from home. When hunger forced him to return a week later, his father beat him unmercifully, but then permitted him to drop out of school and go to work. After a number of menial jobs, in which he was extremely unhappy, he secured work in an engineering firm. Engineering projects had interested him as far back as he could remember, and he took to the work with avidity. He worked at it with enormous energy and showed such natural talent for it that within four years, and at the age of only 21, he worked his way up to a position of top responsibility within the firm and was receiving a very high salary. A year later, when his employer became ill, he was entrusted with the management of the entire firm. He acquitted himself so well in this position that in two years he more than doubled the business of the firm. Meanwhile he was married, set

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*Dr. Louis Katz in a discussion of a paper by Romano and Engel (Psychosom. Med., 7:12, 1945) mentioned having seen "one or two [cases] of reversible ventricular *fibrillation,* in which the attacks could be induced by an emotional upset."

up an expensive home and spent money with a lavish hand.

With the economic crisis of 1929, however, the firm collapsed, his savings were wiped out on the stock market, and he was left penniless. For the next eight years he worked with great energy building up an independent engineering practice. Although it was a long struggle, he gradually began to achieve greater and greater recognition, and finally emerged as one of the outstanding engineers in his community. He always felt extremely insecure professionally, however, due to his lack of a formal academic training in his field, even though he had mastered through practical experience and individual study all the knowledge and techniques which he could have obtained at an engineering college.

During the first years of his marriage, his sex life and relationship with his wife were excellent, but after the birth of their only child, his wife developed strong fears of pregnancy and began to withdraw sexually. From that time on the patient began to have extra-marital relationships which increased in frequency and intensity, so that he began to acquire a reputation as one of the Don Juans of his community. All of this, however, went on without the wife's conscious knowledge, but with a constant fear in the patient's mind that sooner or later his infidelities would be exposed to her.

Hand in hand with this sexual promiscuity went tendencies to "cut corners" in his professional practice and to take dangerous and unnecessary risks. His first attack of tachycardia occurred during a period of great personal and professional tension when he became involved one afternoon in an affair in his own home with a domestic servant. This was the first time he had ever done this. In the midst of the sexual relationship he was suddenly overcome with an awareness of the enormity of the risk that he was taking. His wife might return at any moment, and there were other people working around the house in a way that made discovery not unlikely. He had a sudden onrush of tremendous anxiety, and simultaneously extremely rapid tachycardia developed. He was convinced that he was having a fatal heart attack and called his physician. An injection of quinidine finally stopped the attack, but only after four agonizing hours.

The second attack, several months later, began during an episode in which there was an imminent danger of his being exposed and humiliated for an unwarranted business risk which he had taken.

During the two years that followed before his beginning psychotherapy, these same factors in his personal and professional life kept him in a state of persistent apprehension. His love life had become so complicated as a result of his pyramiding affairs that the danger of exposure constantly grew greater. The letters, phone calls and importunings of his various girl friends, old and new, were becoming increasingly difficult to handle. At the same time, pressing and important business problems were coming to a climactic focus. He was like a juggler who had taken on more than he could handle and who was now trying desperately to avoid the one tiny slip that would inevitably bring the entire unstable dynamism crashing at his feet. Throughout this period he suffered from recurrent anxiety dreams which centered symbolically around two main themes: (1) of feeling hopelessly trapped, and (2) of being in danger of being castrated.

In the course of therapy, other facts of interest emerged. His earliest memory, going back to his fourth year, was of looking at a distant hill outside his bedroom window, and thinking that if only he could climb to the top of it he could touch the sky. Several years later he did climb the hill only to find that "the sky was over the next one." He recalled his intense disappointment, but also his determination to keep climbing the hills until he got high enough to touch the sky.

From adolescence on, his great secret ambition was to be a bull fighter, and watching bull fights was always an enormous source of excitement to him. At the age of 17 he had a brief fling at prize fighting. After a series of successes in a number of preliminary fights, he over-ambitiously sought out a match with a much more experienced fighter and received so humiliating a beating that he retired from the ring permanently. However, throughout his adult years he continued to show a strong predisposition to settle differences of opinion with people by physical violence. He would do things of which he was tremendously afraid just to prove to others that he wasn't really frightened. To appear ridiculous in the eyes of others was the most traumatic experience of which he could conceive. Although painfully aware of many personal and professional inadequacies, he felt it of paramount importance that no one else must ever know of them, and concealed his apprehension with an air of bravado. Once he made a decision he was rigidly stubborn about maintaining it, and would never admit an error. He had no intimate friends and, before therapy, had never confided in anyone, even his wife.

He was a lavish spender and a generous tipper. He preferred to give rather than to receive. Giving made him feel strong and manly. Receiving made him feel weak, inadequate and obligated. In his professional work he showed great esthetic sensitivity as well as originality. He was constantly seeking to devise new techniques and trying "to climb to new heights." He had a strong need to become known as the biggest and best engineer of his kind in the United States.

Several months after the beginning of therapy, an incident occurred which not only had important psychological significance but also led the cardiologist to revise his opinion concerning the patient's cardiac status. On a vacation week-end the patient challenged his only son, a tall, husky, strapping youngster of 19, to a long swimming race, determined to "show the boy that he was still the boss man." He managed to win, but only by dint of almost superhuman exertion at the finish, and he fell exhausted on the beach. Although he had no attack of ventricular tachycardia, he felt upset at his exhaustion and sought another cardiac examination. At this time an electrocardiogram showed abnormal T waves in V_5 and V_6 which the cardiologist felt were indicative of "anterolateral myocardial changes, probably on the basis of coronary artery disease."

The patient was treated by a psychoanalytically-oriented face-to-face psychotherapy for ten months —three times a week for the first six months, and twice a week thereafter. This form of therapy was necessitated by the patient's enormous resistance to a more intensive analytic approach. Although he rationalized this resistance mainly on financial and temporal grounds, there was no genuine basis in reality for these excuses. It was clear that his resistance had deeper origins, centering around his inability to tolerate a situation in which he would have appeared in his own eyes to be passively submissive and not in control.

Despite this limited approach, the patient was able after the first three months of therapy gradually to reduce the amounts and finally to stop taking quinidine, belladonna and Pronestyl. He had no further attacks of paroxysmal tachycardia thereafter, notwithstanding several extremely trying periods in his personal and professional life. Once the symptoms which had brought him into therapy had ceased, however, the patient's resistance to a more thoroughgoing working-through of his characterological problems increased, and against advice he insisted upon terminating therapy.

Fourteen months later, when the patient had been free from attacks of tachycardia for 21 months, a tragic postscript had to be added to his case report. Late one Friday afternoon, the patient and his wife went out to look over one of his engineering projects, which was in process. He became highly annoyed at discovering that his workmen had failed to move a large boulder to the top of a hill as he had requested. In spite of his wife's fervent remonstrations that it was a task for at least two men, he insisted on trying to move the boulder up the hill by himself, then and there. Straining and tugging, red in the face, he succeeded in rolling it two-thirds of the way up, when he suddenly collapsed and died instantly. Postmortem revealed, not a coronary thrombosis, but acute myocardial failure with moderate coronary arteriosclerosis.

Thus the manner of his death, like the pattern of his life, reflected with a kind of fateful inevitability the dynamics of his personality structure—the compulsive need to prove his masculinity and to counterphobically deny his underlying passivity, inadequacy feelings and fears. He died as he had lived, straining to the very end to climb to the top of the hill—the hill of phallic exhibitionism.

It is impossible to draw any general conclusions from a single case. The evidence strongly suggests, however, that this patient's tendency to reactively deny the existence of fear, coupled with his compulsive need to court danger, was a significant determinant in the cardiac episodes. Tachycardia is the heart's characteristic way of responding both to anger and to fear. Where these emotions are accompanied by appropriate activity the tachycardia is physiological and is not subjectively perceived. When, however, the activity is inhibited, the tachycardia is perceived as a subjectively unpleasant sensation.

It is not intended to imply from this, however, that similar patterns must be operative in all cases of tachycardia in which emotional factors are implicated. On the contrary, available evidence suggests that it is not only possible, but highly probable, that in other kinds of personalities repressed rage, rather than repressed fear, can be the significant triggering mechanism. Duncan and co-workers, Katz and co-workers[4] and Master and Eichert[6] described a number of such cases, although also confirming the importance of repressed anxiety in other cases.

It is not within the purview of this communication to theorize about the physiologic mechanism of such arrhythmia. It may be pertinent, however, to mention the studies of Stevenson, Duncan and Wolff,[8] who demonstrated that cardiac output may be increased by emotional states such as anxiety or resentment much more than by the maximal exertions of everyday life, such as climbing stairs; and also the findings of Levy, White and others[5] that persons with pronounced tachycardia show an increased liability to the later development of structural heart disease. This would suggest that the cardiac adaptational demands of prolonged emotional stress may be important in the etiology of structural heart disease. Also it underlines the importance of exploring the emotional factor in all cases of paroxysmal arrhythmia, and of treating it whenever it is found to be present. The case here presented illustrates the fact that emotional stress may be an etiologic factor in paroxysmal tachycardia—even in the presence of structural heart disease. That the structural heart disease in and of itself was not a sufficient explanation for the patient's attacks is indicated by the abatement of attacks under psychotherapy, although they had stubbornly persisted for almost two years before psychotherapy.

The question of why this patient had a ventricular tachycardia instead of the more common auricular variety is one that cannot be answered with certainty. One is forced to assume the presence of an irritable ventricular focus based on myocardial damage secondary to coronary artery disease. Under the influence of the humoral and autonomic changes which accompanied intense and prolonged anxiety, this ectopic focus evidently took over the role of pacemaker.

SUMMARY

A case of paroxysmal ventricular tachycardia in which emotional stress appears to have been the precipitating factor is presented. The relevance of the

patient's underlying character structure—his compulsive need to prove his masculinity, and his counterphobic need to deny his underlying passivity, fears and inadequacy feelings—is discussed.

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Philodendron Dermatitis

CLETE DORSEY, *M.D.*, Pasadena

PHILODENDRON or *Scandens Cardatum* (Figure 1), is a vine-like, tropical plant that has become popular for growing in a pot inside houses.

Recently I observed a case of dermatitis caused by this plant.

REPORT OF A CASE

A 23-year-old Mexican girl was seen one week after the onset of a moderately severe dermatitis of the arms, face and neck. A papulovesicular eruption was present on the dorsa of both hands, the inner wrists, the inner forearms and the outer surfaces of both upper arms. The skin of the eyelids, face and neck was diffusely swollen and erythematous. Itching was severe enough to prevent sleep. The eruption was similar to that of a mild reaction to poison oak.

The patient immediately suggested that the dermatitis might have been caused by Philodendron plants with which she came in contact in her daily work in a commercial greenhouse. She had been told there that Philodendron plants were toxic to the skin. To investigate this possibility, dermal patch tests were done with leaves and stems of all of the plants encountered in her work. The results of all tests at the end of 24 hours were negative. Because it had dried, the Philodendron patch test material (crushed leaves and stems) was moistened with water. At the end of 48 hours, the tests were examined again. There was no reaction to any of the other materials, but there was papulovesicular dermatitis (Figure 2) at the site of the Philodendron patch.

The original dermatitis cleared in two weeks on therapy which included wet dressings, application of an ointment containing hydrocortisone and terramycin (Terra-cortril®) and injection of corticotropin gel subcutaneously. The patient gave no history of a previous allergic reaction. The present attack came on two weeks after she had begun planting Philodendron cuttings.

Three other persons worked at the nursery at

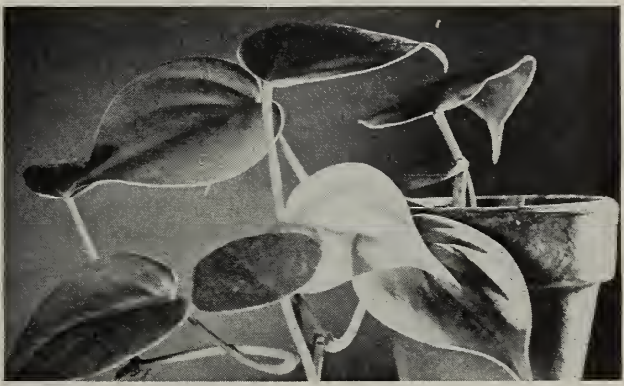

Figure 1.—A typical small Philodendron plant. The color is a uniform bottle-green in both the leaves and stems.

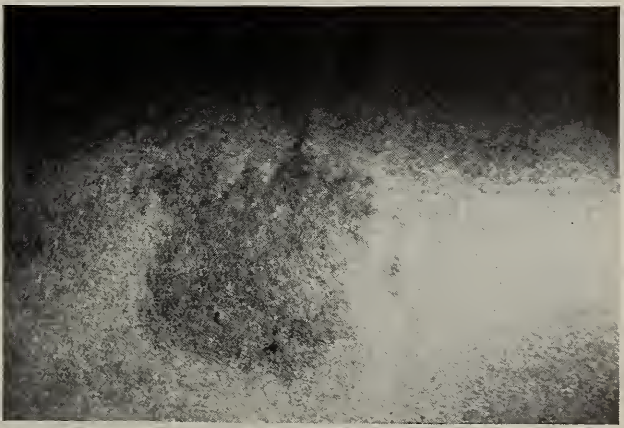

Figure 2.—Patch test reaction to Philodendron leaves and stems (crushed and moistened with water). This photograph was taken four days after the patch was applied. The reaction occurred at about 36 hours after application of the test.

From the Department of Dermatology, University of Southern California School of Medicine, Los Angeles.

Submitted November 27, 1957.

which the patient was employed—the owner, his wife and a Mexican gardener. The owner's wife was so sensitive to Philodendron that she had given up working with the plants. The owner also had allergic sensitivity to these plants but had become "hardened" and now had only mild, transient dermatitis when he worked with them for long periods. He said that a number of other workers in previous years had had to leave because of sensitivity to Philodendron; and he had found that Mexican workers were rarely affected.

DISCUSSION

I could find only one other report of a case of Philodendron dermatitis in the literature. Harris[1] in 1942 described chronic dermatitis of the eyelids in a 23-year-old housewife which was traced to Philodendron plants in her home. The lapse of 15 years between Harris' report and this one would suggest that Philodendron dermatitis is extremely uncommon. Yet such is not the case. Six commercial nursery owners were interviewed. Two of them reported a high incidence of Philodendron sensitivity among their workers. Occasionally the disease was so severe the employee had to avoid exposure to the plant, but in the larger proportion of cases it was relatively mild. Four nurseries reported that none of their employees had ever had allergic reaction to Philodendron. This difference could not be explained except perhaps by the fact that these four dealt relatively little in Philodendron. Nurseries where dermatitis had occurred reported that the plants were more troublesome when the leaves were wet. It is noteworthy in this regard that the woman in the present case did not show a positive reaction to a patch test until the test material was moistened with water. Also, the patient in the case reported by Harris washed the leaves of her plants now and then to keep them glossy and the dermatitis always became worse soon afterward. These observations would suggest that the toxic principle of Philodendron is water-soluble and that it does not lie on the surface of the leaves but within them.

A paradox in Philodendron dermatitis is that it occurs frequently in workers in commercial nurseries, yet apparently almost never in housewives who cultivate the plants at home. Possibly many cases in housewives are not diagnosed. However, I believe that the explanation lies in the difference between the way this plant is cultivated in nurseries and in the home. Plants grown in the home are rarely touched, but in a nursery a worker may come in contact with cut leaves and stems hundreds of times a day. Furthermore, in the home plants are watered cautiously, usually at the base to avoid dripping and splattering, but in a nursery they are watered in such a way that the entire plant becomes wet. It is conceivable that different methods of watering used in different nurseries may account for differences in the extent to which dermatitis occurs among workers.

SUMMARY

Contact dermatitis from Philodendron (*Scandens Cardatum*), a very popular house plant, occurred in a woman who handled the plants in a commercial nursery. A previous investigator reported a case in a woman who cultivated and cared for one of the plants in her home.

Apparently this disease is not uncommon in workers who cultivate Philodendron commercially. Whether or not it is common in housewives who cultivate it at home is not known.

65 North Madison Avenue, Pasadena.

REFERENCE

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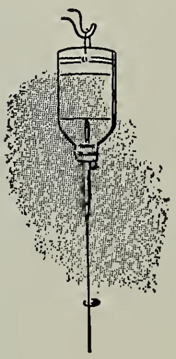

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EDITORIAL

United Funds and Voluntary Health Agencies

THE PAST FEW YEARS have witnessed the development of an increasing controversy between the United Funds and the Voluntary Health Agencies. At times the dispute has descended to levels neither mature nor dignified.

The genesis of the controversy is simple. United Funds have been created to put an end to multiple fund drives for worthy causes. The argument that one might contribute once—and be done with it—appears attractive, particularly to those whose knowledge of the functions of the organizations involved is limited.

These organizations fall into two principal categories. One group consists of local welfare agencies. The other is composed of national health agencies, among which are such highly respected bodies as the American Cancer Society, the American Heart Association, the National Tuberculosis Association and the National Foundation for Infantile Paralysis. These have contributed significantly to the health and medical welfare of the American people. All have state and local subdivisions.

It is worth while to examine the functions of the two groups of agencies. Both are devoted to meeting human needs and are therefore admirable. They have certain points of similarity but greater differences.

The local welfare organizations were established to care for the needy in their own communities. The needs of one community may vary from those of another and may include providing employment, food, shelter, clothing, transportation, medical and hospital care, recreation facilities and other services.

It may be laudable for a community group to survey the overall requirements for these strictly local services, to raise funds in appropriate amount and to distribute them on the basis of a generally acceptable formula. No valid objection to this procedure can be offered, and local welfare organizations wishing to become a part of United Funds should be free to do so.

The value of a particular local organization must be estimated at the community level. Worthy welfare programs deserve our support and when they are joined together in a common campaign for funds we should assist in the project.

The situation with the Voluntary Health Agencies is quite different. The primary purposes of these agencies are to support research, to conduct programs of public education and to assist in professional education. The service aspects of most agencies are limited and constitute a minor portion of their activities. The principal exception is the National Foundation for Infantile Paralysis. As important, however, as the service program of the Foundation may be, it pales into insignificance when compared with the research which led to the development of the Salk vaccine.

The reduction of the death rate of tuberculosis can be attributed in part to the efforts of the Tuberculosis Association. It becomes progressively more apparent that the conquest of cancer and cardiovascular diseases will be accomplished through research into the causes of these conditions and into improved methods of prevention and treatment. Progress is being made in these fields, but much more remains to be done.

It is not easy to decide which research projects deserve support, even at the national level, where maximum information and the services of experts are available. This is much more difficult to accomplish at the state level and it is virtually impossible to do so realistically in the local community. National leadership is essential.

Public education is a prime function of the Voluntary Health Agencies and is particularly important in the field of cancer. The annual crusade of the American Cancer Society in April does more to inform the public of the necessity of early diagnosis and early effective treatment than the year around educational activities of the Society. Thousands of dedicated volunteer workers disseminate important information about cancer while soliciting contributions. The solicitation of funds and the education of the public are inextricably linked.

The individual Voluntary Health Agency must be judged on the basis of its announced objectives, the effectiveness and fidelity it displays in pursuing those objectives and the soundness of its budget. A reasonable overhead and economy of operation are important items.

In some communities great pressure has been exerted upon local branches of the Health Agencies to force them into United Funds. Coercive tactics, misrepresentation and subterfuge have been used. In certain instances medical societies have been induced to set up local research foundations which they are ill equipped, from the standpoint of special skills, experience and facilities, to administer wisely.

This mechanism has been used to enable United Funds to receive donations in the names of diseases the Voluntary Health Agencies were founded to combat. The freedom of the agencies to conduct their own campaigns has been curtailed.

Where long-time arrangements have existed between United Funds and Health Agencies involving participation of the Agencies in campaigns of the United Funds, the experience usually has been unsatisfactory. Smaller sums have been raised for specific purposes than could have been achieved by the agencies alone. It must be recognized that local service demands tend to take precedence over broader programs. The end result has been less well financed research and injury to the public education endeavor.

At the recent hearings of the Shipman Committee in Chicago, it was convincingly demonstrated that the United Community Funds and Councils of America (the national organization of United Funds) is determined to eliminate the fund-raising activities of the Voluntary Health Agencies. It was further developed that donations designated for specific purposes will be accepted by United Funds temporarily, but ultimately the donor probably will be deprived of the right to have his gift allocated according to his desires.

We commend the Voluntary Health Agencies for their refusal to accept money from the United Funds and for directing their state and local units to do likewise. Should the efforts of the United Funds and Councils succeed, the destruction of the Voluntary Health Agencies will be inevitable. These agencies have a record of accomplishment and are rendering constructive service to the American people. Their loss would be a catastrophe.

We, as members of the medical profession, recognize the value of the Voluntary Health Agencies. We also dislike and resent coercion—whether it be by government or by others who arrogate decision as to the course we should follow.

To remain effective, the Voluntary Health Agencies must maintain their independence and retain their identities. It is vital that they not be dominated by other influences or be submerged in larger organizations.

The medical profession probably represents the most potent body of informed public opinion in this controversy. We are convinced that the Voluntary Health Agencies are performing a valuable service. We must not permit ourselves to be coerced or cajoled into programs designed to destroy them. The loss of these bodies would be an open invitation to government to step into the void thus created. Governmental agencies have a place in the financing of research, but to surrender the field to them completely would be to court disaster.

1958 Annual Session

California Medical Association's 1958 Annual Session will again be held at the Ambassador Hotel from the 27th to the 30th of this month.

Lest you think the location of the meeting has got stuck in a rut, please remember that this year the meeting was to have been held in San Francisco; the change to Los Angeles was made when the American Medical Association scheduled its 1958 meeting for San Francisco, an event calculated to drain interest away from a C.M.A. session in the same city just a month earlier.

One pronounced change in the scientific program this year will be three postgraduate courses for which official credit will be given by general practice organizations. Each of the three Los Angeles medical schools will supply the program and faculty for a postgraduate course. To help pay the cost of these courses and to qualify them for credits by organizations who give credits to members for postgraduate work, a fee of $25.00 is to be charged for each.

On Sunday afternoon and Monday and Tuesday mornings, the University of Southern California medical school will stage a course on liver diseases, one session to be held at the Los Angeles County General Hospital.

University of California at Los Angeles will put on a course on the management of trauma on Monday, Tuesday and Wednesday mornings.

On the same mornings the College of Medical Evangelists will devote nine hours to a course on abdominal pain.

The usual business and scientific meetings will again be held. The technical and scientific exhibits always so popular at medical meetings will occupy an important place on the program and will again be housed in the handsome exhibit rooms rebuilt with great care by the hotel just two years ago.

Guest speakers will appear before the general meetings, section meetings and postgraduate courses, each participating from his own specialty angle.

For the benefit of Los Angeles physicians who enjoy Wednesday afternoons away from their offices, the exhibits will remain open through the greater part of that afternoon. For those too busy to come to the meeting earlier, this presents a chance to see at least a part of the show.

A complete program for this session appeared in California Medicine last month. If you haven't yet examined it, there is still time to pick out your own areas of interest and arrange to take part.

Letters to the Editor . . .

February 17, 1958

To the Editor:

Many physicians are growing mindful of a dilemma in philanthropic giving that is particularly important to members of the medical profession. Federated funds have been organized in many communities throughout California to collect and apportion public contributions for the many health and welfare services that are an integral part of our community life. And federated fund-raising has proved, in many instances, an efficient and equitable means of providing support for these local agencies. On the other hand, certain large national research-oriented health agencies have found that independent fund raising, combined with a public education campaign, is necessary to meet national needs of medical investigation and ancillary service in their respective fields.

As a giver, the physician may find that giving once to the full extent of his ability to some united type of fund is a convenient way of meeting his philanthropic obligations. But, as a physician, he is well aware of the creative work done by certain health agencies in research and community service, and should feel a special professional responsibility for the welfare and continuing growth of these agencies.

The dilemma has been sharpened by the effort of many local federated fund organizations to include national health agencies in their "one big give" appeal. Medical societies have been pressed for an endorsement of United Funds not only as an instrument for supporting local community services, but also supporting national health agencies, despite the fact that the policy of independent fund-raising has been firmly established by national assemblies of delegates of the American Heart Association, the American Cancer Society, and similar groups.

Fortunately for the welfare. continuing growth, and pressing need of medical research, most medical societies have resisted these attempts on the part of federated fund leadership to take financial control of the health agencies. Physicians have felt that it was important for the public to have an opportunity to give directly, without intervening authority or arbitrary allocation, to the conquest of those diseases which have affected their lives or the lives of their families. Physicians have also felt that freedom of giving is as important a public right as freedom in choice of physician.

Since federated fund leadership has been unable in most cases to pull the health agencies into fund participation through pressure on county medical societies and other community groups, some local federated funds have abandoned their historical role as fund-raising organizations, devoted to the needs of their constituent community service agencies, and are now using contributed funds to set up health programs of their own in the form of "health foundations," not affiliated with any voluntary national health agency. Once these "health foundations" are established by federated fund groups, the fund makes an appeal to the public that its "one big give" includes research and service programs on heart disease, cancer, poliomyelitis and other medical problems through its ancillary "health foundation."

In light of the resources of leadership, knowledge and experience which the Heart Association has focused since 1948 on the development of a coherent, coordinated, imaginative and professionally responsible research administrative program, which has expended a total of $29 million for medical research, it seems strange that the United Funds have felt the need to set up organizations devoted to the same purposes, simply because the health agencies do not necessarily see matters the federated fund way.

When United Funds collect public moneys for these "foundations" as part of their drives, physicians may wish to inquire how these funds are to be administered, by what kind of board, on the basis of what experience and under the guidance of what administrative policy.

We assume that, in setting up "health foundations," United Fund leadership believes that it has valid reasons for going into programing as well as fund raising, and is not simply taking this action in administrative dudgeon at the health agencies.

We believe that health drives for national medical *research* and united funds for local community *service* can and should coexist peaceably—that the two are not necessarily mutually restrictive.

We regret that the United Funds feel the need to set up these "foundations," since we believe that the Heart Association has developed a valid program for the dispensing of funds given by the public to cope with the challenge of cardiovascular disease. However, because of the extent of that challenge, we do not wish to stand in the way of well-administered programs which scientifically and responsibly dispense funds for heart research and applied service programs.

But we do believe that the medical profession has a fundamental responsibility to see that such funds are wisely spent. My letter is to suggest criteria by means of which the medical profession can evaluate agencies such as "health foundations."

Such criteria has been established under the leadership of men like Paul Dudley White, Irvine Page and Edgar V. Allen, over the years as they formulated the operating policies and high standards of the American Heart Association. The medical profession has, I believe, an obligation to withhold both financial and advisory support from any local undertakings that do not adhere to those standards.

Sincerely yours,

HILLIARD J. KATZ, M.D.
Chairman, Public Relations Committee
California Heart Association

In Memoriam

BAER, HERMAN. Died in Elsinore, February 15, 1958, aged 78. Graduate of the Medical College of South Carolina, Charleston, 1901. Licensed in California in 1919. Doctor Baer was a retired member of the Riverside County Medical Association and the California Medical Association, and an associate member of the American Medical Association.

✣

BOURDON, EVAN COVINGTON. Died in Vallejo, January 8, 1958, aged 49, of generalized carcinomatosis due to carcinoma of the colon. Graduate of Baylor University College of Medicine, Houston, Texas, 1937. Licensed in California in 1939. Doctor Bourdon was a member of the Alameda-Contra Costa Medical Association.

✣

GAROL, HUGH W. Died in San Francisco, February 14, 1958, aged 47. Graduate of McGill University Faculty of Medicine, Montreal, Quebec, Canada, 1938. Licensed in California in 1939. Doctor Garol was a member of the San Francisco Medical Society.

✣

GIBBONS, HENRY WALTER. Died in San Francisco, February 6, 1958, aged 80, of cor pulmonale, chronic, and chronic emphysema. Graduate of Cooper Medical College, San Francisco, 1902. Licensed in California in 1902. Doctor Gibbons was a retired member of the San Francisco Medical Society and the California Medical Association, and an associate member of the American Medical Association.

✣

JOYCE, THOMAS FRANCIS. Died February 10, 1958, aged 85. Graduate of the Bellevue Hospital Medical College, New York, N. Y., 1898. Licensed in California in 1930. Doctor Joyce was a retired member of the Los Angeles County Medical Association and the California Medical Association, and an associate member of the American Medical Association.

✣

MCCOOL, JOSEPH LETELLE. Died in Monrovia, February 12, 1958, aged 78. Graduate of the University of Pennsylvania School of Medicine, Philadelphia, 1900. Licensed in California in 1929. Doctor McCool was a retired member of the San Francisco Medical Society and the California Medical Association, and an associate member of the American Medical Association.

✣

SCHWARTZ, SIDNEY. Died in Modesto, February 3, 1958. Graduate of Stanford University School of Medicine, Stanford-San Francisco, 1938. Licensed in California in 1938. Doctor Schwartz was a member of the Stanislaus County Medical Society.

✣

WALLACE, JOHN ASHER. Died in San Bernardino, February 4, 1958, aged 53. Graduate of the University of Colorado School of Medicine, Denver, 1930. Licensed in California in 1930. Doctor Wallace was a retired member of the San Bernardino County Medical Society and the California Medical Association, and an associate member of the American Medical Association.

✣

WALTON, ROBERT. Died February 20, 1958, aged 67. Graduate of the George Washington University School of Medicine, Washington, D. C., 1916. Licensed in California in 1930. Doctor Walton was a member of the Los Angeles County Medical Association.

APPLICATION FOR HOUSING ACCOMMODATIONS

FOR YOUR CONVENIENCE in making hotel reservations for the coming meeting of the **California Medical Association,** April 27 to 30, 1958, Los Angeles, hotels and their rates are at the right. Use the form at the bottom of this page, indicating your first and second choice. Because of the limited number of single rooms available, you will stand a much better chance of securing accommodations of your choice if your request calls for rooms to be occupied by two or more persons. **All requests for reservations must give definite date and hour of arrival as well as definite date and approximate hour of departure; also names and addresses of all occupants of hotel rooms must be included.**

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Eighty-seventh Annual Session

CALIFORNIA MEDICAL ASSOCIATION

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3405 Wilshire Boulevard		12.00-16.00	20.00-25.00
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3355 Wilshire Boulevard	8.00	10.50	18.00
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3191 West Seventh Street	7.00- 8.00	10.00-12.00	
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87th Annual Session

CALIFORNIA MEDICAL ASSOCIATION IN COOPERATION WITH THE

College of Medical Evangelists
University of California at Los Angeles and
University of Southern California

Presents . . .

Three New Postgraduate Courses During C. M. A. Annual Session

---

Abdominal Pain

Program planned by the University of California at Los Angeles School of Medicine

THOMAS H. STERNBERG, M.D.
Assistant Dean for Postgraduate Medical Education
Course Chairman: SHERMAN M. MELLINKOFF, M.D.

APRIL 28, 29 and 30

West Venetian Room, Ambassador Hotel

MONDAY, APRIL 28

9:00-9:45 a.m.—**Painful Medical Diseases of the Abdomen**—William E. Molle, M.D.

9:45-10:00 a.m.—Recess.

10:00-10:45 a.m.—**Psychiatric Aspects of Abdominal Pain**—Frank F. Tallman, M.D.

10:45-11:30 a.m.—**Panel Discussion**—William E. Molle, M.D., Sherman M. Mellinkoff, M.D., and Frank F. Tallman, M.D.

11:30-12:00 noon—**Questions.**

TUESDAY, APRIL 29

9:00-9:45 a.m.—**Surgical Causes of Abdominal Pain**—Mark M. Ravitch, M.D.

9:45-10:00 a.m.—**Recess.**

10:00-10:45 a.m.—**Retroperitoneal Causes of Abdominal Pain**—Chester C. Winter, M.D.

10:45-11:30 a.m.—**Panel Discussion**—Chester C. Winter, M.D., Sherman M. Mellinkoff, M.D., and Mark M. Ravitch, M.D.

11:30-12:00 noon—**Questions.**

WEDNESDAY, APRIL 30

9:00-10:30 a.m.—**Systemic Causes of Abdominal Pain**—Sherman M. Mellinkoff, M.D.

10:30-10:45 a.m.—**Recess.**

10:45-11:30 a.m.—**Panel Discussion—Differential Diagnosis of Abdominal Pain**—William E. Molle, M.D., Sherman M. Mellinkoff, M.D., Mark M. Ravitch, M.D., Frank F. Tallman, M.D., and Chester C. Winter, M.D.

11:30-12:00 noon—**Questions.**

Fee: $25.00.*

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*Interns and Residents with proper identification will be registered without payment of the fee.

Liver Diseases

Program planned by the University of Southern California School of Medicine

PHIL R. MANNING, M.D., *Director Postgraduate Division*
Course Director: TELFER B. REYNOLDS, M.D.

APRIL 27, 28 and 29

Ambassador Hotel and Los Angeles County General Hospital

SUNDAY, APRIL 27

Symposium on Jaundice

(Los Angeles County General Hospital)

2:00-3:00 p.m.—**Panel—Liver Function Tests:**
Telfer B. Reynolds, M.D., Moderator
Charles S. Davidson, M.D.
Bernard J. Haverback, M.D. Allan G. Redeker, M.D.

3:00-5:00 p.m.—**Clinic on Jaundice.** Small groups will see and discuss interesting patients with the faculty.

MONDAY, APRIL 28

Ambassador Hotel, French Room

9:00-9:40 a.m.—**Viral Hepatitis**—Charles S. Davidson, M.D.

9:40-10:10 a.m.—**Malignant Carcinoid Syndrome**—Bernard J. Haverback, M.D.

10:10-10:40 a.m.—**Wilson's Disease; A Treatable Condition**—Telfer B. Reynolds, M.D.

10:40-10:50 a.m.—**Recess.**

10:50-12:00 noon—**Diagnostic Techniques Applicable to Liver Disease**
Splenoportography—William P. Mikkelsen, M.D.
Hepatic Vein Catheterization—Allan G. Redeker, M.D.
Liver Biopsy—Telfer B. Reynolds, M.D.

TUESDAY, APRIL 29

Ambassador Hotel, French Room

Symposium on Cirrhosis

9:00-9:30 a.m.—**Alcohol vs. Nutrition in the Etiology of Cirrhosis**—Charles S. Davidson, M.D.

Complications of Cirrhosis

9:30-10:00 a.m.—**Ascites**—Telfer B. Reynolds, M.D.

10:00-10:40 a.m.—**Portal Hypertension**—William P. Mikkelsen, M.D., and Telfer B. Reynolds, M.D.

10:40-10:50 a.m.—**Recess.**

10:50-12:00 noon—**Hepatic Coma and Its Relationship to Ammonium Metabolism**—Charles S. Davidson, M.D.

Fee: $25.00. Limited to 100 Registrants.

Postgraduate Courses

William A. Altemeier, M.D., Christian R. Holmes Professor of Surgery, University of Cincinnati College of Medicine

Charles S. Davidson, M.D., Associate Professor of Medicine, Harvard Medical School, Boston

Mark M. Ravitch, M.D., Associate Professor of Surgery, Johns Hopkins University School of Medicine, Baltimore

Bronson S. Ray, M.D., Professor of Clinical Surgery (Chief, Department of Neurosurgery), New York Hospital-Cornell University Medical College, New York City

guest speakers

Management of Trauma

Program planned by College of Medical Evangelists

Harold M. Walton, M.D.
Chairman, Graduate and Postgraduate Medicine

APRIL 28, 29 and 30

Ambassador Hotel
Embassy Room—Monday and Tuesday
East Venetian Room—Wednesday

MONDAY, APRIL 28

Robert L. Marsh, M.D., Chairman and Moderator

General Topic

Basic Science Applications to Trauma with Particular Attention to Shock and Burns

9:00-9:15 a.m.—**Fluid and Electrolytes**—David B. Hinshaw, M.D.
9:15-9:30 a.m.—**Hemorrhage**—Harry A. Davis, M.D.
9:30-9:45 a.m.—**Vasomotor Responses**—Philip J. Vogel, M.D.
9:45-10:00 a.m.—**Endocrines**—Roy F. Perkins, M.D.
10:00-10:15 a.m.—**Ventilation**—Clarence R. Collier, M.D.
10:15-10:35 a.m.—**Discussion and Summary**—Mark M. Ravitch, M.D.
10:35-10:50 a.m.—**Recess.**
10:50-12:00 noon—**Panel Discussion**
Robert L. Marsh, M.D., Moderator
Mark M. Ravitch, M.D. Roy F. Perkins, M.D.
Harry A. Davis, M.D. Philip J. Vogel, M.D.
Clarence R. Collier, M.D. David B. Hinshaw, M.D.

TUESDAY, APRIL 29

Harry C. Prout, M.D., Chairman and Moderator

General Topic

Injuries to the Thorax and Abdomen

9:00-9:15 a.m.—**Injuries to the Thorax**—Ellsworth E. Wareham, M.D.
9:15-9:30 a.m.—**Injuries to the Abdomen**—Harry C. Prout, M.D.
9:30-9:45 a.m.—**Injuries to Blood Vessels**—Max R. Gaspar, M.D.
9:45-10:00 a.m.—**Injuries to the Genitourinary System**—Roger W. Barnes, M.D.
10:00-10:15 a.m.—**Management of Patients with Burns**—Clifford A. Barber, M.D.
10:15-10:35 a.m.—**Discussion and Summary**—William A. Altemeier, M.D.
10:35-10:50 a.m.—**Recess.**
10:50-12:00 noon—**Panel Discussion:**
Harry C. Prout, M.D., Moderator
William A. Altemeier, M.D.
Roger W. Barnes, M.D. Clifford A. Barber, M.D.
Max R. Gaspar, M.D. Ellsworth E. Wareham, M.D.

WEDNESDAY, APRIL 30

Alonzo J. Neufeld, M.D., Chairman and Moderator

General Topic

Injuries to Nervous System, Face, Skeleto-Muscular Structures

9:00-9:20 a.m.—**Injuries to Facial Structures**—Leland R. House, M.D.
9:20-9:40 a.m.—**Mechanism of Cerebral Injuries**—Cyril B. Courville, M.D.
9:40-10:00 a.m.—**Treatment of Injuries to the Nervous System**—Bronson S. Ray, M.D.
10:00-10:20 a.m.—**Injuries to Skeleto-Muscular Structures**—Vernon L. Nickel, M.D.
10:20-10:40 a.m.—**Recess.**
10:40-12:00 noon—**Panel Discussion:**
Alonzo J. Neufeld, M.D., Moderator
Bronson S. Ray, M.D. Leland R. House, M.D.
Cyril B. Courville, M.D. Vernon L. Nickel, M.D.

Fee: $25.00

APPLICATION FORM

Postgraduate Activities
California Medical Association
2975 Wilshire Boulevard
Los Angeles 5, California

Enclosed please find my check for $25.00, made payable to *California Medical Association.* I plan to attend the Postgraduate Course.................................. in Los Angeles during the California Medical Association annual session.

Name..

Address..

☐ I am in General Practice
☐ I limit my practice to..............................

Medical school attended..

Year of graduation..........................

Interns and Residents are invited to attend free of charge.

WOMAN'S AUXILIARY
TO THE CALIFORNIA MEDICAL ASSOCIATION

The Word from Dr. Allman

"INFORM YOUR MEMBERSHIP" has been my theme for the year. Because I too need information, I have been a faithful reader of the *Journal of the American Medical Association* and of CALIFORNIA MEDICINE. Last Sunday as I perused through the February 22 issue of the *J.A.M.A.*, I found Dr. David B. Allman's article on the Woman's Auxiliary — medicine's staunchest ally. Instantly, I thought of at least a dozen physicians that I would like to send a reprint to. Imagine my surprise when in the Monday mail I found a reprint addressed to me.

I certainly hope that every state medical association president reads it; and in particular that every county medical society president reads it. Over and over again as I visit various counties I hear that many county medical society presidents are almost unaware of the Woman's Auxiliary. This is so unfortunate, because we do our finest work for them; furthering the nurse recruitment program, contributing generously to the American Medical Education Foundation, to Physicians' Benevolence and in furthering health legislation. It is on the county level that the fresh and imaginative ideas emerge, and it is here that encouragement must come from the physicians.

I'm certain that many of you have not seen Dr. Allman's message, and so I am going to quote from it:

> **"I believe that our county and state medical societies should take advantage of the willingness and the talent of Woman's Auxiliaries. Tell them what they can do; tell them how they can serve the medical profession at the local level. Potential woman-power is at our command, but it is worthless if we do not release its energy.**
>
> **"However, we cannot turn Woman's Auxiliaries loose without the necessary background, current information, and proper training on a specific project. The auxiliary members themselves do not want to work in a haphazard fashion. They want to understand and they want to be well-informed. In every activity in which the auxiliary can serve, we should have close coordination so auxiliary members are kept abreast of all developments. For years representatives of the auxiliary have participated in the meetings of many medical association public relations and legislation committees. I see no reason why this idea should not be expanded so that auxiliary representatives can attend most meetings of medical society committees.**
>
> **"It certainly would be unwise for us to allow such a large part of medicine's great force to stand off by itself . . . we can accomplish much more if we bring the Woman's Auxiliaries closer to our state and county medical societies."**

To me this is a great tribute from a great man. Are you aware that an excellent biographical article on Dr. Allman appeared in the February issue of *Current Biography?* Are you aware that Dr. Allman in his opening address at the A.M.A. meeting in Philadelphia delivered some hard-hitting words against the Forand bill, and here in California hundreds of letters have been written by auxiliary members to our congressmen and senators opposing this bill? Are you aware that the July issue of the *Journal of the Medical Society of New Jersey* carries an article entitled, David Allman, The Physician? It is considered one of the finest written tributes ever paid to a president of the American Medical Association. It was written by Dr. Maurice Bear Gordon, who served on Dr. Allman's surgical service at the Atlantic City Hospital in 1940.

Many articles and stories have appeared in the press and professional journals since Dr. Allman was inaugurated at the A.M.A. in New York. He has appeared on television and with Rabbi Martin M. Weitz discussed "How Religion and Medicine Go Hand in Hand."

This is the great gentleman who says, "It should be the duty of each state and county medical society to provide more ways for the Auxiliary member to serve the medical profession."

It has indeed been a pleasure to write this monthly article for CALIFORNIA MEDICINE. Next month will be my last contribution; and it will be my report to the House of Delegates of the California Medical Association.

MRS. LEONARD D. OFFIELD
President, Woman's Auxiliary to the
California Medical Association

NEWS & NOTES

NATIONAL · STATE · COUNTY

ALAMEDA

Dr. Charles E. Smith, dean of the School of Public Health of the University of California, has been appointed to the National Advisory Council on Allergy and Infectious Diseases, a division of the National Institutes of Health. The appointment, announced by United States Surgeon General L. E. Burney, is for a period of four years ending in 1962.

LOS ANGELES

Dr. Roger O. Egeberg, formerly director of the Los Angeles County General Hospital, recently was appointed medical chief of the Los Angeles County Department of Charities. Dr. Egeberg succeeds Dr. Howard F. West, who retired from the post last October.

* * *

Dr. George V. Webster of Pasadena was elected president of the American Society for Surgery of the Hand at the organization's recent annual meeting in New York City.

* * *

There will be a dinner meeting of the **Harvard Medical Alumni Association** of Southern California on April 23 at 6:30 p.m. at the California Club, 538 South Flower Street in downtown Los Angeles. All graduates from the Harvard Medical School are invited to attend. Information concerning reservations may be obtained from Dr. Lowell F. Bushnell, 1321 North Vermont Avenue, Los Angeles 27.

* * *

The Foundation of the American Society of Plastic and Reconstructive Surgery announced recently that **Dr. Bernard G. Sarnat** of Beverly Hills was the recipient of the society's senior award for 1957 for research in plastic and reconstructive surgery. Dr. Sarnat received the organization's junior award in 1950.

* * *

The **City of Hope Medical Center** in Duarte, California, has announced that it is receiving applications for a residency and a research fellowship. The residency, the announcement said, will emphasize clinical aspects of diagnosis and treatment of heart disease and cardiac catheterization. The research fellowship will provide more detailed training in techniques of physiologic investigation of patients with cardiovascular disorders and also an opportunity for the fellow to devote approximately half his time to a research project in the animal of clinical laboratories. The residency is for a year and the salary stipend is $3,600. The fellowship is for a year and may be renewed for one additional year, with salary stipend of $4,000 to $4,800. Further information may be obtained from Dr. Max Harry Weil, City of Hope Medical Center, Duarte.

PLACER-NEVADA-SIERRA

Dr. Louis E. Jones, Roseville, who has been secretary of the California State Board of Medical Examiners since 1949, has been appointed to the executive committee of the Federation of State Boards of Medical Examiners of the United States. Dr. Jones addressed a recent convention of the Federation in Chicago.

SAN FRANCISCO

Dr. William H. Creger of the Stanford University School of Medicine has received an award of $10,235 from the American Cancer Society to support an investigation of the relationship between certain blood groups and a tendency to cancer of the stomach.

* * *

The 1958 meeting of the **American Goiter Association** will be held in the St. Francis Hotel, San Francisco, June 17 to 19. The program of the three-day meeting, it was announced by the association, will consist of papers and discussions dealing with the physiology and diseases of the thyroid gland.

* * *

The **American College of Angiology** has announced that its fourth annual meeting will be held June 21 and 22, 1958, at the Fairmont Hotel, San Francisco. The meeting will consist of four scientific sessions devoted to cardiovascular medicine, cerebrovascular disease and experimental angiology.

The co-chairmen are Dr. Alvin Bakst, Brooklyn, Dr. J. Earle Estes, Mayo Clinic, Dr. George P. Fulton, San Francisco, and Dr. Paul S. Lowenstein, St. Louis.

* * *

Dr. William L. Weirich, chief resident in surgery at the University of California Medical Center in San Francisco, has been named a Markle Scholar in Medical Science, it was announced recently by the John and Mary R. Markle Foundation. The scholarship carries with it a grant of $30,000 in support of the salary and research program of the recipient over a period of five years.

Dr. Weirich's research interests, it was announced, are in cardiac surgery and physiology, including changes in circulatory function occasioned by the use of pump oxygenators.

* * *

The Florence Crittenton Home of San Francisco, which offers **care and counsel to unwed mothers,** has announced the publication of a new brochure that is available to physicians who may wish to inform themselves as to the facilities and services of the Home.

Titled "The Girl Outside," the brochure tells of the programs for girls who are resident at the Home and of help available to girls who do not enter the Home but seek advice.

Copies of the brochure may be had by writing to the Florence Crittenton Home, Broderick and Golden Gate Avenue, San Francisco 15. The telephone number is JOrdan 7-6720.

GENERAL

Dr. James F. Regan, Glendale, and **Dr. George S. Johnson** of the Stanford University School of Medicine, San Francisco, have been appointed to the California State Board of Medical Examiners by Governor Goodwin Knight for terms ending in 1962. They succeed Dr. William F. Quinn of Los Angeles and Dr. Henry Gibbons III of San Francisco.

* * *

Mainland physicians have been invited by the Hawaii Medical Association to attend the **Hawaii Summer Medical Conference** in Honolulu July 1 to 3, 1958. The conference has been timed to follow soon after the annual meeting of the American Medical Association which is to be held in San Francisco June 23 to 27.

Included in the program of the conference are breakfast panels and a special afternoon clinic at a Honolulu hospital.

The announcement said that additional information or arrangements for reservations may be obtained by writing to Lee Kirkland Travel, care of Medical Tours, Postoffice Box 3433, Chicago 54, Illinois.

* * *

Dr. H. Spencer Hoyt of Monterey was installed as president of the western section of the American Urological Association at the association's convention held recently at Palm Springs, California. Dr. Hoyt succeeds Dr. Lyle G. Craig of Pasadena. Dr. Charles M. Stewart of Los Angeles was reelected secretary-treasurer.

* * *

The western regional meeting of the **International College of Surgeons** will be held in Reno, August 21 to 23, at the Riverside Hotel. Further information may be obtained from Dr. Leo D. Nannini, 190 Mill Street, Reno, Nevada.

POSTGRADUATE EDUCATION NOTICES

THIS BULLETIN of the dates of postgraduate education programs and the meetings of various medical organizations in California is supplied by the Committee on Postgraduate Activities of the California Medical Association. In order that they may be listed here, please send communications relating to your future medical or surgical programs to: Mrs. Margaret H. Griffith, Director, Postgraduate Activities, California Medical Association, 2975 Wilshire Boulevard, Los Angeles 5.

UNIVERSITY OF CALIFORNIA AT LOS ANGELES

Proctology. Wednesday, April 16. Six hours.†

Medical Technology Workshop: Microbiology. Saturday and Sunday, April 19 and 20. Six hours. Fee: $8.00.

Dermatology in General Practice (enrollment limited). Wednesdays, April 23 to May 28. Twelve hours. Fee: $50.00.

Advances in Behavioral Science of Significance for Rehabilitation. Saturday, April 26. Seven hours. Fee: $10.00.

Casts, Splints and Bandages (enrollment limited). Wednesday, May 7 (inclusive). Six hours. Fee: $40.00.

Collagen Diseases. Friday and Saturday, May 23 and 24. Nine hours. Fee: $35.00.

Emotional Problems in Office Practice (University of California Residential Conference Center, Lake Arrowhead). Thursday through Saturday, June 5 to 7. Sixteen hours. Fee: $150.00 (including room and meals).

Seventh Annual Symposium on Medical Technology. Saturday and Sunday, June 14 and 15. Twelve hours. Fee: $20.00.

Techniques of Hypnosis (enrollment limited). Monday through Wednesday, June 16 to 18. Fifteen hours. Fee: $65.00.

Advanced Techniques and Application of Hypnosis (enrollment limited). Wednesday through Friday, June 18 to 20. Fifteen hours. Fee: $110.00.

Dissection of the Thorax, Abdomen and Pelvis (enrollment limited to 32). Friday and Saturday, June 27 and 28. Twelve hours. Fee: $125.00.

Obstetrics and Gynecology. Thursday through Saturday, July 17 through July 19. Sixteen hours.†

Techniques of Surgery. Monday through Friday (limited to 14), July 28 to August 1. Forty hours: Fee: $500.00.

Internal Medicine (at University of California Residential Conference Center, Lake Arrowhead), Wednesday through Saturday, August 20 to 23. Sixteen hours.†

Anesthesiology. Wednesday through Friday, August 27 through August 29. Sixteen hours.†

Contact: Thomas H. Sternberg, M.D., Assistant Dean for Postgraduate Medical Education, U.C.L.A., Los Angeles 24. BRadshaw 2-8911, Ext. 202.

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

Interpretation of Laboratory Tests. Wednesday to Friday, May 14 to 16. Twenty-one hours.†

Orthopedic Surgery and Fractures. Friday and Saturday, May 16 and 17. Fourteen hours.†

Ear-Nose-Throat. Friday and Saturday, June 6 and 7. Fourteen hours. Fee: $40.00.

Fundamental Principles of Radioactivity and the Diagnostic and Therapeutic Uses of Radioisotopes. Two or three month course limited to one enrollee per month. Per month, $250.00.

Contact: Seymour M. Farber, M.D., Head, Postgraduate Instruction, Office of Medical Extension, University of California Medical Center, San Francisco 22. MOntrose 4-3600, Ext. 665.

STANFORD UNIVERSITY SCHOOL OF MEDICINE

Morning Clinical Conferences, each Monday, Room 515. *Contact:* D. H. Pischel, M.D., Professor, Division of Ophthalmology, Stanford University School of Medicine, 2398 Sacramento St., San Francisco 15.

UNIVERSITY OF SOUTHERN CALIFORNIA, LOS ANGELES

Cardiac Resuscitation. Sponsored by the Los Angeles County Heart Association each Wednesday throughout the year, 4 to 6 p.m., USC Medical Research Building, Room 211, 2025 Zonal Avenue. Residents and interns of Los Angeles County, and all armed forces medical personnel admitted without fee. Tuition for all other physicians $30.00. (Each session all-inclusive.)

Basic Home Course in Electrocardiography. One year Postgraduate Series, electrocardiogram interpretation by mail. Physicians may register at any time and receive all 52 issues. Fifty-two weeks. Fee: $100.00.

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†Fee to be announced.

Advance Home Course in Electrocardiography. One year postgraduate series, electrocardiogram interpretation by mail. Fifty-two issues: $85.00. Physicians may register at any time.

Problems of Malpractice. Lectures will be presented on problems relating to malpractice situation in California, May 17, Hotel Statler, Los Angeles. Tuition: $18.00.

Office Orthopedics in General Practice. Designed to be of value to the physician in general practice. May 23 to 25, Hotel Statler, Los Angeles, 9 to 5 each day. Fee: $75.00.

Special Announcement: From August 5 to August 21, 1958, the University of Southern California School of Medicine will hold a postgraduate course in Honolulu and on board the *S.S. Matsonia.* The course will center around actual case histories, which will be used to emphasize diagnostic and therapeutic features.

Contact: Phil R. Manning, M.D., Director, Postgraduate Division, University of Southern California School of Medicine, 2025 Zonal Avenue, Los Angeles 33. CApital 5-1511.

COLLEGE OF MEDICAL EVANGELISTS

Audio-Visual Postgraduate Refresher Courses. Courses are made up of four or more half-hour lectures each, recorded on hi-fi magnetic tape and illustrated by 35-mm. filmstrips or slides in full color, and adapted for use on any standard tape recorder and filmstrip or slide projector, automatic or manual.

Contact: Paul D. Foster, M.D., chairman, Committee on Audio-Visual Courses, College of Medical Evangelists School of Medicine, 316 North Bailey St., Los Angeles 33.

CALIFORNIA MEDICAL ASSOCIATION POSTGRADUATE COURSES

POSTGRADUATE INSTITUTES—1958

Postgraduate Courses during California Medical Association Annual Meeting

Abdominal Pain. Program by U.C.L.A. School of Medicine. April 28, 29, 30, 9:00-12:00 a.m. Ambassador Hotel, Los Angeles.

Management of Trauma. Program by College of Medical Evangelists. April 28, 29, 30, 9:00-12:00 a.m. Ambassador Hotel, Los Angeles.

Liver Diseases. Program by U.S.C. School of Medicine. April 27, 2:00-5:00 p.m., Los Angeles County General Hospital, and April 28-29, 9:00-12:00 a.m., Ambassador Hotel, Los Angeles.

Guest Speakers: William A. Altemeier, M.D., University of Cincinnati School of Medicine; Charles S. Davidson, M.D., Harvard Medical School; Mark M. Ravitch, M.D., Johns Hopkins University School of Medicine; Bronson S. Ray, M.D., Cornell University Medical College.

Fee: $25.00 each course

For additional information and complete program write: Postgraduate Activities, California Medical Association, 2975 Wilshire Boulevard, Los Angeles 5.

AUDIO DIGEST FOUNDATION, a nonprofit subsidiary of the C.M.A., now offers (on a subscription basis) a series of hour-long tape recordings designed to keep the physician abreast of current happenings in his particular field. Composed of practice-useful abstracts from 600 leading journals, with short lectures and editorial comments from prominent physicians, Audio Digest offers programs covering general practice, surgery, internal medicine, obstetrics and gynecology, and pediatrics.

Contact: Claron L. Oakley, editor, 1919 Wilshire Blvd., Los Angeles 57.

Medical Dates Bulletin

APRIL MEETINGS

AMERICAN COLLEGE OF OBSTETRICIANS AND GYNECOLOGISTS, April 21 to 23, Hotel Statler, Los Angeles. *Contact:* Keith P. Russell, M.D., 511 S. Bonnie Brae, Los Angeles 5.

CANCER COMMISSION, CALIFORNIA MEDICAL ASSOCIATION CANCER CONFERENCE for Mendocino-Lake County Medical Societies, April 24, State Hospital, Ukiah.*

AMERICAN COLLEGE OF CHEST PHYSICIANS, California Chapter, Scientific Meeting, April 26, 9 to 5, Embassy Room, Ambassador Hotel, Los Angeles. *Contact:* Thomas B. Wiper, M.D., secretary-treasurer, 536 Mason Street, San Francisco 2.

AMERICAN SOCIETY OF INTERNAL MEDICINE Annual Meeting, Chalfonte-Haddon Hall, Atlantic City, April 26 and 27. *Contact:* Mrs. Mildred B. Coleman, assistant secretary, or Claude P. Callaway, M.D., secretary-treasurer, 350 Post Street, San Francisco.

CANCER COMMISSION, CALIFORNIA MEDICAL ASSOCIATION PRE-CONVENTION CONFERENCES on Pathology and Radiology, April 26, Ambassador Hotel, Los Angeles.*

CALIFORNIA MEDICAL ASSOCIATION Annual Meeting, Ambassador Hotel, Los Angeles, April 27 to 30. *Contact:* John Hunton, executive secretary, 450 Sutter St., San Francisco 8, or Ed Clancy, director, Public Relations, 2975 Wilshire Blvd., Los Angeles 5.

MAY MEETINGS

LOS ANGELES COUNTY HEART ASSOCIATION Annual Membership Meeting, May 1, 7:00 p.m., Los Angeles. *Contact:* Chauncey A. Alexander, executive director, 660 S. Western Avenue, Los Angeles 5.

CALIFORNIA CONFERENCE OF LOCAL HEALTH OFFICERS Semi-Annual Meeting, Los Angeles, May 1 and 2. *Contact:* Dr. John C. Dement, chief, Division of Local Health Service, State Department of Public Health, 2151 Berkeley Way, Berkeley 4.

HAWAII MEDICAL ASSOCIATION Annual Meeting, May 1 through May 3, Honolulu. *Contact:* Lee McCaslin, executive secretary, Hawaii Medical Association, 510 S. Beretania St., Honolulu.

**Contact:* Walter E. Batchelder, M.D., medical director, California Medical Association Cancer Commission, 450 Sutter St., San Francisco 8.

WESTERN GERONTOLOGICAL SOCIETY Third Annual Convention, May 3 and 4, Hotel Statler, Los Angeles. Begins 1:00 p.m. May 3. *Contact:* Chas. A. Preuss, M.D., president, 1317 Santa Barbara Street, Santa Barbara.

GROUP PSYCHOTHERAPY ASSOCIATION OF SOUTHERN CALIFORNIA Annual Meeting, May 3, all day, Chapman Park Hotel, Los Angeles. *Contact:* E. Parl Welch, Ph.D., 450 N. Bedford Drive, Beverly Hills.

CANCER COMMISSION, CALIFORNIA MEDICAL ASSOCIATION CANCER CONFERENCE for Sonoma County Medical Society, Santa Rosa, May 8.*

AMERICAN PSYCHIATRIC ASSOCIATION Annual Meeting, May 12 to 16, Civic Auditorium, San Francisco. *Contact:* Alfred Auerback, M.D., 450 Sutter St., San Francisco.

CHILDREN'S HOSPITAL OF THE EAST BAY Sixth Annual Clifford D. Sweet Seminar, May 16 and 17, Claremont Hotel, Berkeley. *Contact:* Arthur Bolter, M.D., Clifford D. Sweet Lectureship Committee, Children's Hospital of the East Bay, 51st and Dover St., Oakland 9.

AMERICAN ACADEMY OF APPLIED NUTRITION 22nd Annual National Convention, May 16 through May 18, Huntington-Sheraton Hotel, Pasadena. *Contact:* R. T. Pottenger, M.D., vice-president, 960 E. Green St., Pasadena.

HAWAIIAN DIVISIONAL MEETING, AMERICAN PSYCHIATRIC ASSOCIATION, May 17 to 22, Hawaiian Village, Honolulu. *Contact:* Alfred Auerback, M.D., 450 Sutter St., San Francisco.

WESTERN BRANCH, AMERICAN PUBLIC HEALTH ASSOCIATION Annual Meeting with Canadian Public Health Association, May 19 to 23, Vancouver, B. C. *Contact:* Mrs. L. Amy Darter, secretary-treasurer, 2151 Berkeley Way, Berkeley 4.

AMERICAN LARYNGOLOGICAL ASSOCIATION, May 19 to 20, San Francisco. *Contact:* James H. Maxwell, M.D., secretary, University Hospital, Ann Arbor, Michigan.

AMERICAN BRONCHO-ESOPHAGOLOGICAL ASSOCIATION, May 21 to 23, San Francisco. *Contact:* F. Johnson Putney, M.D., secretary, 1719 Rittenhouse Square, Philadelphia, Pa.

CALIFORNIA HEART ASSOCIATION Annual Meeting, Scientific Session and Directors Meeting, Hacienda Motel, Fresno, May 23 to 25. *Contact:* J. Keith Thwaites, executive director, 1428 Bush St., San Francisco.

SUMMER AND FALL MEETINGS

AMERICAN COLLEGE OF CHEST PHYSICIANS 24th Annual Meeting, June 18 to 22, San Francisco. *Contact:* Mr. Murray Kornfeld, executive director, 112 East Chestnut St., Chicago 11, Ill.

AMERICAN MEDICAL ASSOCIATION Annual Meeting, June 23 to 27, San Francisco. *Contact:* American Medical Association, 535 North Dearborn St., Chicago 10.

AMERICAN PROCTOLOGIC SOCIETY, June 29 to July 3, Los Angeles. *Contact:* Norman D. Nigro, M.D., secretary, 10 Peterboro St., Detroit 1, Michigan.

HAWAII MEDICAL ASSOCIATION Summer Conference, July 1 through July 3, Honolulu. *Contact:* Lee McCaslin, executive secretary, 510 S. Beretania St., Honolulu.

IDAHO STATE MEDICAL ASSOCIATION Annual Convention, July 6 to 9, Sun Valley, Idaho. *Contact:* Armand L. Bird, executive secretary, 364 Sonna Building, Boise.

ROCKY MOUNTAIN CANCER CONFERENCE, July 9 and 10, Shirley-Savoy Hotel, Denver. *Contact:* Alexis E. Lubchenco, M.D., 835 Republic Bldg., Denver 2, Colo.

NEW MEXICO CHAPTER ACADEMY OF GENERAL PRACTICE Ruidosa Summer Clinic, July 21 through July 24, Ruidosa, New Mexico. *Contact:* Frederick R. Brown, M.D., secretary-treasurer, 207 N. Union, Roswell, New Mexico.

SAINT JOHN'S HOSPITAL POSTGRADUATE ASSEMBLY, September 11 through September 14, Saint John's Hospital, Santa Monica. *Contact:* John C. Eagan, M.D., director, Postgraduate Assembly, 22nd St. at Santa Monica Blvd., Santa Monica.

WASHINGTON STATE MEDICAL ASSOCIATION Annual Convention, September 14 to 17, 1958, Spokane, Washington. *Contact:* Ralph W. Neill, executive secretary, 1309 Seventh Ave., Seattle, Wash.

NEVADA STATE MEDICAL ASSOCIATION Annual Meeting, September 17 through 20, Elko, Nevada. *Contact:* Nelson B. Neff, executive secretary, P. O. Box 188, Reno.

COLORADO STATE MEDICAL SOCIETY Annual Session, September 24 through 27, Broadmoor Hotel, Colorado Springs. *Contact:* Harvey T. Sethman, executive secretary, 835 Republic Bldg., Denver 2.

CALIFORNIA ACADEMY OF GENERAL PRACTICE Tenth Annual Scientific Assembly, October 5 to 8, Masonic Temple, San Francisco. *Contact:* William W. Rogers, executive secretary, 461 Market Street, San Francisco 5.

LOS ANGELES COUNTY HEART ASSOCIATION Professional Symposium, October 8 and 9, Wilshire Ebell Theatre, 9 to 5. *Contact:* C. A. Alexander, executive director, Los Angeles County Heart Association, 660 S. Western Avenue, Los Angeles 5.

CALIFORNIA SOCIETY OF INTERNAL MEDICINE Annual Meeting, October 17 to 19, Ahwahnee Hotel, Yosemite. *Contact:* Mrs. Mildred B. Coleman, executive secretary, or Dr. Clyde C. Greene, secretary-treasurer, 350 Post St., San Francisco 8.

AMERICAN HEART ASSOCIATION Scientific Sessions and Meetings, October 24 to 28, Fairmont Hotel and Civic Auditorium, San Francisco. *Contact:* J. Keith Thwaites, executive director, California Heart Association, 1428 Bush Street, San Francisco 9.

LOS ANGELES COUNTY HEART ASSOCIATION 28th Annual Professional Symposium, October 29 and 30, Wilshire Ebell Theater. *Contact:* Los Angeles County Heart Association, 660 S. Western Ave., Los Angeles 5, DUnkirk 5-4231.

THE PHYSICIAN'S *Bookshelf*

EMOTIONAL ILLNESS: HOW FAMILIES CAN HELP—Karl R. Beutner, M.D., and Nathan G. Hale, Jr., M.A. G. P. Putnam's Sons, 210 Madison Ave., New York City, 1957. 158 pages, $2.75.

No disease is more feared—or misunderstood—than mental illness. This small book, written to help the family of an emotionally sick patient recognize and cope with the difficulties involved, deals with one facet of the problem.

The authors discuss many types of mental functioning and behavior in the individual from common, only slightly abnormal incidents, to psychiatric emergencies. They lay emphasis on early signs and roots of mental disorders and the patient's need for medical care. They explain how the relatives can make things easier for themselves as well as for the patient. They tell what to do and how to go about getting help. On the whole, this consists of advice to consult the family doctor or proper community health agencies.

The book gives a number of points on "how to do what" when the patient and the relatives are under proper psychiatric care. It leaves unanswered the problems involved when the patient does not place himself under proper therapy. And many of the cases leave the reader dangling as to their follow-up.

In summary, the reader is told that psychotherapy is a way of dealing with human feelings through a relationship with a skilled, highly trained specialist. It is perhaps the most effective method now available to treat the kinds of problems that cause emotional illness.

The book contributes to general enlightenment about emotional illness and should be useful to the patients of general practitioners and psychiatrists alike. It should help families and perhaps patients themselves to perceive mental illness and psychiatry as one area in medicine.

EDGAR WAYBURN, M.D.

* * *

MANUAL OF PEDIATRIC PHYSICAL DIAGNOSIS—Lewis A. Barness, M.D., Associate Professor of Pediatrics, University of Pennsylvania School of Medicine, The Year Book Publishers, Inc., 200 East Illinois, Chicago, 1957. 195 pages, $4.00.

This book is an encyclopedia of what may be seen, felt, measured and heard in the physical examination of the infant and child. It is divided into nine chapters which cover each region of the body. One chapter is given over to the examination of the newborn. There are two appendices. One is a "Record of Physical Examination" which is a recapitulation of conditions underscored in the text. The other is "Some Rare Syndromes with Characteristic Appearance." The index tabulates very well the material in the text.

In each chapter every condition, normal or abnormal, that may be present in the section of the body to be observed is mentioned and underscored. Methods of examination are also discussed.

The book is a detailed guide for the medical student, intern and resident who would make himself familiar with all conditions, normal and abnormal, that must be noted in the complete physical examination of the child, thus leading to a proper diagnosis.

For the physician in general practice or the pediatrician, the book would be one of reference. But even for them new tricks in the physical diagnosis might be learned.

E. EARL MOODY, M.D.

* * *

MODERN PERINATAL CARE—Leslie V. Dill, M.D., F.A.C.S., Associate Clinical Professor, Obstetrics and Gynecology, Georgetown University School of Medicine. Appleton-Century-Crofts, Inc., 35 W. 32nd St., New York 1, N. Y., 1957. 309 pages, $6.50.

This volume is designed chiefly for the practicing obstetrician, but will be found useful to the pediatrician and general practitioner as well.

The chapters devoted to Nutrition and Pregnancy, the Psychology of Pregnancy, Anemias of Pregnancy, Pregnancy and Diabetes, Fetal and Neonatal Mortality, Erythroblastosis and Breast Feeding are examples of areas in which there is great overlapping of interest on the part of pediatricians and obstetricians. The author has a readable clear style—has made generous use of easily understood diagrams and has followed each chapter with a particularly generous and up-to-date list of references.

The book can be recommended to physicians caring for newborns and as an addition to a modern newborn nursery library.

W. DEAMER, M.D.

* * *

CHEMISTRY AND BIOLOGY OF PURINES—Ciba Foundation Symposium—G. E. W. Wolstenholme, O.B.E., M.A., M.B., B.Ch., and Cecilia M. O'Connor, B.Sc., Editors for the Ciba Foundation. Little, Brown and Company, Boston, 1957. 327 pages, 124 illustrations, $9.00.

In these days of nuclear and cellular research, the twenty-two lectures, given by leading workers in most of the countries of the British Commonwealth and the United States of America are of great interest, especially to those interested in the biology of cancer and in cellular metabolism. The lectures are related only in that they discuss various aspects of the structure and metabolism of purine derivatives; otherwise there is no connecting thread and the book is not intended for the beginning student. Rather, the lectures were given by experts to experts at the Ciba Foundation Symposium held on the 8th to 10th of May, 1956 in London. A few titles, selected at random, are "Synthesis and properties of purines of potential biological interest," "The π-electron properties of purines calculated by the L. C. A. O. method," "Stereochemistry of nucleoside synthesis," "Biological and microbiological activity of purine analogues of vitamin B_{12}," "The use of 6-mercaptopurine in the treatment of leukemia," "Enzymic control of purines by xanthine oxidase."

C. H. THIENES, M.D.

ORTHOPEDICS FOR THE GENERAL PRACTITIONER—William E. Kenney, M.D., Orthopedic Surgeon, Truesdale Hospital; and Carroll B. Larson, M.D., F.A.C.S., Professor of Orthopedic Surgery and Chairman of Department of Orthopedic Surgery, State University of Iowa. The C. V. Mosby Company, St. Louis, 1957. 413 pages, $11.50.

This new book should be available to, or in the library of all physicians concerned with diseases and disorders of the bones, joints, and muscles.

Each of the fourteen chapters is organized to diagnose and treat specific problems, from congenital defects of the newborn to neoplasms of bone. An excellent outline of symptoms and their most likely cause precedes each new subject. This feature makes quick reference easy. The one hundred and eighty illustrations are sharp, clear, and free of distracting, extraneous matter.

The pertinent roentgenograms are clearly reproduced. Helpful estimates of disability periods follow sections on injuries. A refreshing minimum of footnotes, references, and statistical tables, combined with the clear, sharp type makes easy, pleasant reading. Controversial subjects are discussed with tact and restraint.

The critical reader should forgive the occasional error in spelling and the frequent use of trade names for common drugs.

This book is sincerely recommended to the general practitioner and pediatrician. Interns and residents should find it especially helpful. As the authors say in the preface, "by using this book a doctor should be able to arrive at a diagnosis and outline his treatment with a minimum loss of time."

James E. Reeves, M.D.

* * *

PROGRESS IN NEUROLOGY AND PSYCHIATRY—An Annual Review—Volume XII—Edited by E. A. Spiegel, M.D., Professor and Head of the Department of Experimental Neurology, Temple University School of Medicine, Grune & Stratton, New York, 1957. 657 pages, $12.00.

This annual volume continues to be of tremendous value to neurologists, psychiatrists, and those working in related fields, providing as it does essentially an annotated bibliography of work published the previous year. It is doubtful if anyone reads the book through, but in addition to supplying a summary of progress in fields of immediate interest to the physician it remains as a bibliography capable of saving much time and effort when a particular subject wants investigation. As is always the case in such a book which is the joint effort of a number of authors, the excellence of coverage varies widely from chapter to chapter, but in the main is quite adequate. Although it is aimed at the specialist, it should make interesting reading for anyone interested in nervous function.

Henry Newman, M.D.

* * *

ALCOHOLISM—A Treatment Guide for General Practitioners—Donald W. Hewitt, M.D., Lea & Febiger, Philadelphia, 1957. 112 pages, $3.00.

This small book of about 100 pages has as its avowed objective the dissemination of knowledge regarding the nature and treatment of alcoholism to the general practitioner. The presentation of the facts is generally sound, and the practical suggestions as to how to deal with the different varieties of chronic alcoholism should be helpful to the physician who has to meet this problem in his practice. The crux of the situation is, however, the lack of enthusiasm of the profession as a whole to accept such individuals as patients. As a result, although the more affluent may be under the observation of a psychiatrist early in their illness, the rank and file of alcoholics receive medical attention only after years of abuse of the drug result in tangible evidence of organic brain and nerve involvement. Perhaps the reluctance of the practitioner to assume the care of these unfortunate individuals springs from the generally recognized poor prognosis of this type of addiction, perhaps equally from the generally held concept of alcoholism as a form of vice rather than illness. For those general practitioners who are willing to assume the obligation of treating alcoholics as sick people, this book should prove valuable. For the specialist in the field, it will reveal little not already known.

Henry Newman, M.D.

* * *

ATOMIC ENERGY IN MEDICINE—K. E. Halnan, M.D. (Atoms for Peace Series, D. W. Morley, ed.), Philosophical Library, Inc., 15 East 40th Street, New York 16, N. Y., 1957. 157 pages, tables, illustrations and 14 plates, $6.00.

The author states in the foreword that this book is written for the layman and the professional worker in the field of atomic energy in medicine. The book is such easy reading and so well written, obviously written by a man who has been close to the field of atomic energy and medicine for a long time, that it seems to me it would be worth while reading for practically anyone interested in the field. The common sense, practical, down to earth discussion of atomic energy in medicine makes this book valuable.

The chapters are: (1) Introduction to atomic physics and the nuclear reactor; (2) The principles of use of radioactive isotopes; (3) Radioactive isotopes in medical research; (4) Radiobiology; (5) Cancer and radiotherapy; (6) Radioactive iodine and the thyroid gland; (7) Radioactive isotopes and blood diseases; (8) Other new aids to diagnosis; (9) The medical use of high energy particle accelerators; (10) Problems and hazards of radiation; (11) The future.

John H. Lawrence, M.D.

* * *

CRAIG AND FAUST'S CLINICAL PARASITOLOGY—Sixth Edition—Ernest Carroll Faust, A.B., M.A., Ph.D., William Vincent Professor of Tropical Diseases and Hygiene, Tulane University School of Medicine; and Paul Farr Russell, M.D., M.P.H., Staff Member, The Rockefeller Foundation; Consultant to Surgeon General, U. S. Army. Lea & Febiger, Philadelphia, 1957. 1078 pages, 346 illustrations, 7 colored plates, $15.00.

A new and revised sixth edition of a standard textbook has appeared twenty years after the introduction of the first edition. The junior author of the previous editions becomes the senior author, and the new junior author, Dr. Paul Farr Russell, is a world authority in the field of Tropical Public Health, with emphasis on malariology.

Basically the text is organized in a manner similar to previous editions, but several new subjects such as visceral larval migrans and alveolar hydatid disease have been added. The treatment of parasitic infections has been brought up-to-date; the treatment schedules are compiled in a table in the front of the book, a table that is particularly useful to clinicians.

Clinical Parasitology, although of primary value to advanced students of parasitology, is extremely useful for clinicians seeking information about geographical distribution, symptomatology, and laboratory procedures to establish the diagnosis of parasitic infections. The technical appendix contains valuable information on the proper collection of specimens for laboratory examination and identification.

This text is recommended as a reference, particularly for clinicians on the Pacific Coast, because of the higher frequency of parasitic infections seen in a population containing a higher percentage of Orientals and migrant laborers of foreign origin.

Quentin M. Geiman, Ph.D.

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Ulcerative Colitis Foundation Formed

With the encouragement of the National Institute of Arthritis and Metabolic Diseases, a new medical research foundation has been organized to promote research in ulcerative colitis. Dr. Joseph B. Kirsner of the University of Chicago, chairman for the conference where the new project was announced, said it was "an essential step toward finding the cause and cures for this dreadful disease." Miles Fiterman, Minneapolis businessman who heads the foundation, said plans are to provide researchers with "continuing and guaranteed funds" for research. He explained that one of the foundation's purposes is to "provide a climate for research that will attract outstanding men so that more progress may be made in solving the problems of ulcerative colitis just as progress had been made in recent years in the fields of polio and heart disease. The foundation's medical advisory board includes Drs. Kirsner, Walter L. Palmer of the University of Chicago, Jacob A. Bargen of the Mayo Clinic, Julian M. Ruffin of Duke University and president-elect of the American College of Physicians, Steward G. Wolf, Jr., of the University of Oklahoma, and Owen H. Wagensteen of the University of Minnesota and Professor Howard P. Lewis of the University of Oregon.

—*A.M.A. Washington Letter*

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CLASSIFIED ADVERTISEMENTS

(Continued from Front Advertising Section, Page 32)

PHYSICIANS WANTED *(Continued)*

ORTHOPEDIC SURGEON—Board Eligible—Opportunity now available for equal status association with Board Orthopedist in Southern California metropolis. Excellent practice opportunities in ample new offices. Hospitals are excellent with open staffs. Clinical teaching facilities are available. Living and cultural conditions pleasant. References, qualifications, date available. Box 94,105, California Medicine.

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WANTED: PEDIATRICIAN, Board eligible or certified, to share two-doctor office with well established Pediatrician in Covina, California. Office fully equipped and sharing of overhead expenses desired. Opportunity for rapid growth of practice excellent. Contact John F. Meyer, M.D., 131 West Dexter Street, Covina, California. EDgewood 9-6273.

WANTED: YOUNG PEDIATRICIAN in nine-man medical group. Salary around $1,000.00 per month to start, and association in one year. Santa Cruz 25,000 population. Good hospital facilities. One and one-half hours (1½) hours from San Francisco, 45 minutes from Carmel or Monterey, two minutes from Pacific Ocean or Santa Cruz Mountains. To begin now or will wait for right candidate until July. Box 94,125, California Medicine.

CALIFORNIA—PULMONARY DISEASES—Staff appointment available July 1 in accredited bicounty hospital, 219 beds pulmonary diseases, 30 beds rehabilitation chronic illness. Starting salary $600 monthly, includes furnished modern house for family. Must be eligible California licensure. Write Medical Director, Tulare-Kings Counties Hospital, Springville, California.

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ADMINISTRATOR—HOSPITAL OR CLINIC: B.S. Degree in Business Administration, M.S. Degree in Hospital Administration, married, 39 years of age. 5½ years experience 50-bed hospital as administrator-anesthetist, 8½ years total administrative experience, considerable experience in planning, equipping and staffing new hospital. Prefer combination administrator-anesthetist position of 30-50 bed hospital, or business manager-anesthetist of clinic. Box 94,130, Caliifornia Medicine.

GENERAL PRACTITIONER—Main interest surgery. Age 45. 20 years practice Middle West. Desires relocation in California. Association or purchase of active practice. California licensed. Box 92,125, California Medicine.

GENERAL PRACTITIONER, Age 29, California licensed. Married and family. Completing military service in October, 1958. Three years of well-rounded general practice experience. Graduate of class A medical school. Member of American Academy of General Practice. Desires position or association in either Marin or Sonoma County. Box 94,140, California Medicine.

POSITION WANTED, INTERNIST with training in Metabolic Endocrine diseases, available now, training teaching hospital, solo or partnership. Prefer area that will need surgeon, wife will finish surgical residency in December, training teaching hospital. Box 94,080, California Medicine.

INTERNIST—GASTRO-ENTEROLOGIST, age 30, married, with training in G-I fluoroscopy and endoscopy. Part I of Boards completed. Desires association with individual or group in San Diego, Los Angeles, or San Francisco areas. Military obligations completed. Now finishing Gastro-enterology training in Los Angeles. Box 94,155, California Medicine.

(Continued on Page 78)

Ways Suggested to Combat Staphylococcic Infections

Two suggestions for combating the growing problem of staphylococcic infections in hospitals have resulted from a recent American Medical Association conference.

Reported in the March 8 issue of the *Journal of the American Medical Association* the suggestions are:

—That every hospital appoint a responsible officer or committee to investigate infection in hospitals and attempt to control it by instituting preventive procedures.

—That more scientific research concerning staphylococci be encouraged. "Diligent research" is needed to understand the special properties that make the bacteria so dangerous and to find control measures against them.

The conference on staphylococcic infections, sponsored by the American Medical Association Board of Trustees, was attended by representatives of major medical groups. The American Medical Association board passed the conference recommendations on to the Joint Commission on Accreditation of Hospitals for its consideration and action. Seven reports of the conference appear in the current *Journal.*

Two general contributing causes of this serious situation can be discerned, one *Journal* report said. They are:

"A tendency to relax the rigorous aseptic precautions in hospital 'housekeeping' and procedure, relying overmuch on antibiotics to suppress infections."

"The very peculiar biologic characteristics of the epidemic strain or strains, including their special propensity for becoming resistant to an increasingly wide range of antibiotics and chemotherapeutic agents."

Dr. Stuart Mudd, Philadelphia, chairman of the A.M.A. committee on research, said complications due to staphylococcic infections are "currently bedeviling" hospital staffs in all medically advanced parts of the world.

Appearing throughout the world is "a strain or strains" of Micrococcus staphylococcus pyogenes var. aureus with "very special biologic characteristics." These strains cause skin abscesses, wound infections, pneumonia, and other complications in hospitalized persons.

An accompanying *Journal* editorial warned "that aseptic techniques should never be relaxed for a moment in spite of the convenient availability of antibiotics. The modes of transmission of staphylococci are varied and complex and the organisms are practically ubiquitous."

In addition to asepsis in the operating room and nursery, many hospital housekeeping details must

(Continued on Page 74)

Insecticide Residue May Cause Poisoning

More attention should be given to the possibility of poisoning from residues left on plants after they have been dusted with insecticides, stated two West Coast researchers.

This was reported in an article written in the February 15 issue of the *Journal of the American Medical Association* by Dr. Griffith E. Quinby, of Wenatchee, Washington, and Allen B. Lemmon, A.B., of Sacramento, California.

The warning of the danger from residues was advanced after the team studied a number of outbreaks over a six-year period of parathion poisoning among crop workers who entered fields shortly after the crops had been dusted with the chemical.

"Previously, due to the limited number of published reports of poisoning by residues, physicians have tended to insist on a history of direct exposure to sprays, concentrates, or dusts before giving serious consideration to a diagnosis of parathion poisoning," the researchers said.

A striking difference exists between poisoning produced by direct exposure and that due to residues.

In cases of direct exposure it is unusual for more than one or two of those involved to become ill.

Large numbers of those exposed to residues have been known to be affected. This type is also considered to be more mild and the onset is more gradual.

The current study also points out that of those crops examined, all had foliage at least chest high. "This may imply that workers are poisoned in this way only when dusted or bathed in the dilute residues practically from head to foot."

In the majority of the cases, poisoning was detected within two days after the solution had been applied to the crops. There have been extreme cases of poisoning up to four weeks after exposure.

Parathion is a chemical spray long used by workers who thin, pick, cultivate or irrigate crops. These crops include: apples, pears, grapes, hops, and citrus fruits.

The report concludes by saying, "It is obvious that regulations and recommendations which have been promulgated to prevent occurrence of such episodes are not only justified in purpose but probably need review, modification and improved enforcement if such incidents are to be prevented."

Dr. Griffith E. Quinby is attached to the Communicable Disease Center, Public Health Service, United States Department of Health, Education and Welfare, at Atlanta, Georgia, and Mr. Allen B. Lemmon is with the Bureau of Chemistry, Department of Agriculture of the State of California.

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Source—Barrow, D. W.: The Clinical Management of Varicose Veins, ed. 2, New York, Paul B. Hoeber, Inc., 1957, p. 79.

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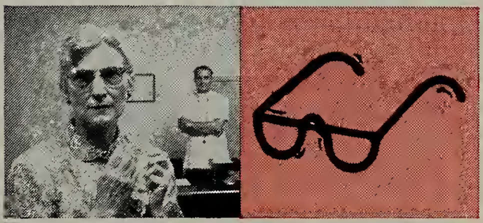

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Ways Suggested to Combat Staphylococcic Infections

(Continued from Page 68)

be considered, the editorial said. According to one report in the *Journal,* these range from the ink pad used in the delivery room to record the footprints of infants to handwashing, "possibly the most important single control measure."

The editorial also said, "Fortunately a few antibiotics are still effective against staphylococci. How long they will remain so will depend on the wisdom and restraint with which they are used."

Already a large proportion of staphylococci are resistant to penicillin, the tetracyclines, and streptomycin, the conference reports showed. While some resistance to erythromycin and chloramphenicol occurs, the majority of staphylococci are still sensitive to bacitracin, carbomycin, neomycin and novobicin. However, these drugs must be used with extreme care to prevent bacterial resistance from developing and because of the possibility of harmful side effects from the drugs.

In addition to recommending further research and the institution of hospital committees, the conference noted the need for community participation in these problems. It suggested that county medical societies, local health departments, and interhospital committees on infections take an interest in the problem.

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1. Carlozzi, M.: Antibiotic Med. & Clin. Therapy 5:146 (Feb.) 1958.

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(Continued from Page 68)

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PEDIATRICIAN, 34. Foreign Graduate. Just completed military service. Part I Board of Pediatrics. California license. Desires position with group, hospital, or student health examiner. Box 94,145, California Medicine.

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(Continued on Page 86)

Medical Semantics

Even the word which indicates what a doctor does can be a source of trouble. For example, the internists find it repeatedly necessary to remind the public that internists are not interns. And pathologists and psychiatrists must exercise constant vigilance to see to it that unfortunate juxtapositions such as "pathological doctor" and "psychiatric doctor" do not find their way into print. These difficulties could easily be obviated by calling internists *herbalists*, pathologists *medical umpires*, and psychiatrists *brain-probers*. . . . There are many more examples of ways in which Medicine would benefit from a good verbal housecleaning. Take hospitals. Why, the very word *hospital* conjures up visions of illness—so why don't we talk of "health centers" instead? . . . *Emergency* room unfortunately suggests urgency, and should be replaced by a more neutral term such as "Express Station." . . . Wards and semi-private rooms might more engagingly be referred to as "good-neighbor pavilions." . . . And we must do something about "*Labor*atory"—the etymologically ominous ring to this word undoubtedly contributes to present difficulties in technician recruitment.—Justin Dorgeloh, M.D., Be Careful What You Say, Doctor, *The Bulletin of the Alameda-Contra Costa Medical Association*, November, 1957.

Facial Pain Called "Most Agonizing"

The reasons for facial pain being "perhaps the most agonizing of all afflictions" were given recently by a Georgia physician.

There is a reasonable physical reason for severe suffering from facial pain. The "cephalic end of man has been blessed with the highest degree" of nervous development, which allows for the most acute awareness of any sensory stimulation.

Also the head and face command more attention than other parts of the body, Dr. George W. Smith, Augusta, Georgia, wrote in the February 22 issue of the *Journal of the American Medical Association.*

Man is very much aware of his face and head and its vulnerability to injury or hurt. Accordingly, he is quickly and greatly concerned about any painful sensation.

Awareness of others scrutinizing his exposed face magnifies any sensation he might be experiencing, although there may be no objective change to the observer, Dr. Smith said.

The way people bear pain depends on their own personalities, emotions, and neurotic tendencies, he said. This difference among people makes evaluation, diagnosis, and treatment of facial pain a complicated and difficult problem for the doctor.

The precise diagnosis and localization of the origin of facial pain is difficult because there are

(Continued on Page 82)

rheumatoid arthritis
involves both
joints and
muscles

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1. Comroe's Arthritis: Hollander, J. L., p. 149 (Fifth Edition, Lea & Febiger, Philadelphia, Pa. 1953).
2. Merck Manual: Lyght, C. E., p. 1102 (Ninth Edition, Merck & Co., Inc., Rahway, N. J. 1956).

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How much money does a successful pharmaceutical company make?

Why do drugs cost so much?

Is drug research a gamble?

These and many other questions are answered in an excellent 17-page article recently prepared by the Medical and Pharmaceutical Information Bureau of New York and mailed to newspaper and magazine writers throughout the country.

It is entitled "Risks and Rewards of Pharmaceutical Research." The article shows conclusively that the consumer is not only paying a smaller share of his income for drugs today than he did two decades ago, but in terms of health, freedom from pain, and often life itself he is buying immeasurably more.

Copies of the article may be obtained from the Medical and Pharmaceutical Information Bureau, 115 East 69th Street, New York 21, N. Y.

Facial Pain Called "Most Agonizing"

(Continued from Page 78)

so many nerves and they so overlap that it is hard to distinguish just what path the pain is following.

Relief depends on the cause. If it results from something other than nerve damage, such as infection in the mouth or a tumor, it can be relieved by eradicating the cause. When the nerves themselves are damaged or diseased, the treatment is more complicated, often involving surgery.

Dr. Smith is in the division of neurological surgery, the Medical College of Georgia.

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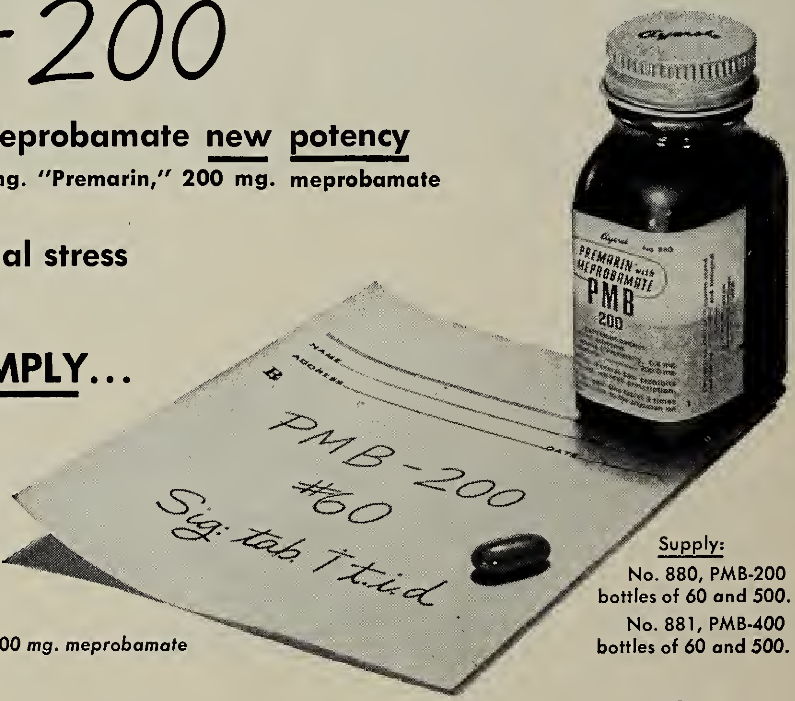

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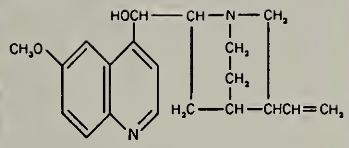

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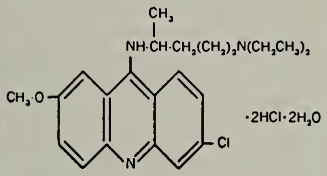

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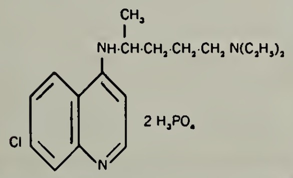

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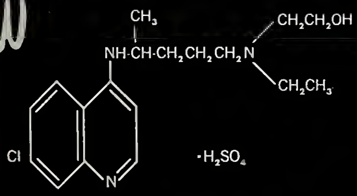

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REFERENCES:
1. Scherbel, A L., Schuchter, S.L., and Harrison, J.W.: *Cleveland Clin. Quart.* 24:98, Apr., 1957.
2 hoch, A.G., and Alexander, L.J.: The Schoch section, *Bull. A. Mil. Dermatologists* 5:25, Nov., 1956.
3 Cornbleet, Theodore: Arch. Dermat. 73:572, June, 1956.

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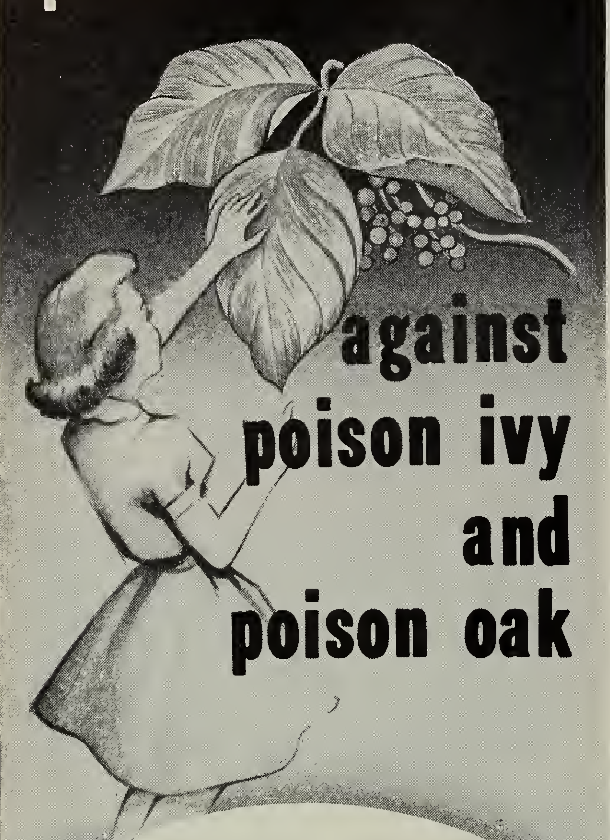

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American Medical Association Meeting in 1958

Between 12,000 and 15,000 physicians will journey westward in June in search of something far more valuable than gold. They'll be on a quest for the latest information on new medical techniques and discoveries at the American Medical Association's 107th Annual Meeting in San Francisco. The five days of June 23-27 will be filled with bright nuggets—including scientific exhibits, lectures, motion pictures, panel discussions, televised surgical procedures and commercial exhibits. Convenient center for the Scientific and Technical Exhibits, films, color TV and lectures will be the Civic Auditorium, the adjacent new Brooks Hall and other surrounding buildings. Headquarters for the House of Delegates sessions will be the Sheraton-Palace Hotel.

Plans for an outstanding scientific lecture program are being completed by the Council on Scientific Assembly. Opening the general scientific program Monday afternoon, June 23, will be a symposium on the care of the severely injured patient. Tuesday morning's general meeting will feature another symposium on hazards associated with therapeutic agents. Formal scientific section meetings will run from Tuesday afternoon through Friday morning.

Special panel discussions and demonstrations are being planned throughout the meeting, including: Perinatal problems; methods of resuscitation of infants; nutrition; physical examination of physicians, using electrocardiograms and chest x-rays; fresh tissue pathology, and treatment of fractures. The Section on Miscellaneous Topics also is planning sessions on allergy, prevention of traffic accidents, prevention of injury in sports, and medical professional liability. Other features will be a color television program of live operations and demonstrations from San Francisco Hospital and a varied motion picture program.

Two high school winners of American Medical Association scientific awards at the National Science Fair again will display their prize exhibits. In addition, the top winners of the intern-resident and medical student exhibit classifications at the Student American Medical Association convention this spring will be invited for the first time to exhibit at an American Medical Association meeting.

Registration officially opens at the new Brooks Hall Monday, June 23, at 8:30 a.m. and closes Friday noon. Advance registrations will be accepted Sunday, June 22, from 12 noon to 4:00 p.m. The Scientific and Technical Exhibits will be open to American Medical Association physician-members *only* on Tuesday and Wednesday mornings.

Plan now to attend this worthwhile medical meeting.

—A.M.A. News & Notes

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American Medical Association to Publish Tabloid Newspaper

The American Medical Association has announced that it will soon publish a new, 16-page tabloid newspaper called *The A.M.A. News* and that it will be distributed every two weeks to approximately 200,000 physicians.

In making the announcement, Dr. F. J. L. Blasingame, newly appointed general manager of the American Medical Association, said the paper "will bring to the attention of our members the multitude of projects and activities carried on by their association, as well as other nonscientific news of special interest to the medical profession."

Much of the news appearing in the publication will come from state and county medical societies as well as from a number of correspondents located in key geographical areas.

"In this way," Dr. Blasingame said, "all physicians will be kept informed of what is going on in medicine in other states."

He said also that the publication will carry advertising and that the editorial staff will work at the association's Chicago headquarters.

The first issue of the tabloid newspaper is expected to be ready for distribution at the annual American Medical Association convention in San Francisco, June 23-27.

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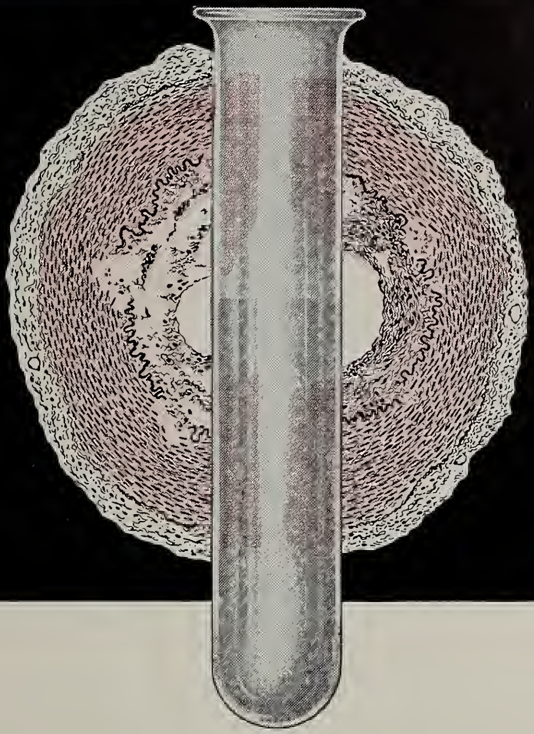

Frequently, diabetes mellitus is associated with excessive coronary atherosclerosis and heart disease. It is also well recognized that vascular disease manifests itself at an earlier age and progresses more rapidly in the diabetic . . . especially the diabetic female. The early onset and severe degree of atherosclerosis may be due to faulty lipid metabolism, with a concomitant elevation in blood cholesterol levels. Kinsell[1] reports that even in diabetics with extensive vascular disease it is possible to produce normal cholesterol levels with an essential fatty acid emulsion.

The consensus of opinion today is that elevated cholesterol levels should be reduced or prevented. This can be done very well by the addition of adequate amounts of linoleic acid and vitamin B_6 to the diet. In scores of diabetic patients, with extensive vascular disease, diets high in linoleic acid resulted in improvement.[2,3] Vitamin B_6 apparently is necessary to convert linoleic acid into the primary essential fatty acid, arachidonic acid. Thus the body is dependent on an intake of both linoleic acid and vitamin B_6 for normal cholesterol levels.[4,5]

This is why ARCOFAC (Armour Cholesterol Lowering Factor) provides *both* linoleic acid and vitamin B_6 in adequate amounts, thus allowing the patient to eat a balanced, nutritious and palatable diet. Prophylactic dosage is 1-2 tablespoonfuls daily; therapeutic—2-8 tablespoonfuls daily.

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Essential fatty acids†.........6.8 Gm.
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Pyridoxine hydrochloride
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Heredity Counselors' Work Explained

The chances of children inheriting certain physical and mental defects can often be predicted.

In recent years more than 15 little-known "heredity counseling" clinics connected with medical centers or universities have quietly sprung up in the United States and Canada. The counseling is done by geneticists—scientists trained in human heredity.

The work of these centers is described by a New York writer, Jack Harrison Pollack, in the March issue of *Today's Health,* the American Medical Association's health magazine.

Parents generally visit a heredity clinic after the birth of a defective child, but others also go to the clinics because a relative has a defect.

"The heredity counselor—who deals in facts, not fears—estimates the risks of a couple's future babies being born abnormal," the article said. "It isn't wild, hit-or-miss guesswork.

"Before any predictions are made, a family tree is carefully investigated. Advice-seekers often receive complete physical examinations. . . . A heredity counselor may also probe hospital records, search old family Bibles, and church records, and, occasionally, even drive hundreds of miles to interview distant relatives."

After evaluating all the facts, the counselor outlines the mathematical probability of a couple's children inheriting certain abnormalities, Mr. Pollack said. "Naturally no mere mortal can predict nature's handiwork with absolute certainty. Yet risks for malformation recurrences in families can frequently be estimated, even when an inheritance pattern is unclear."

The counselors never advise a couple about whether or not to have children. "Guiding instead of deciding," they merely try to clarify the couple's thinking by telling them the scientific likelihood of specific traits appearing in their unborn children so that they can make their own intelligent decision about having children.

Dr. Sheldon Feed, director of the University of Minnesota Dight Institute and a leading heredity counselor, was quoted as saying, "What is an acceptable risk for one family may not be for another. Many factors have to be considered, such as religious principles, guilt feelings, and whether the parents already have normal children."

Risks vary from 50 per cent down to practically zero, but they are usually much less than parents had feared, the article said.

Not only do the clinics give information about malformations, but also about hair, skin and eye color, multiple births, and susceptibility to such diseases as diabetes and schizophrenia.

Clinics are operating in Berkeley, California;

(Continued on Page 38)

for: greater patient acceptance
proved therapeutic skin hygiene

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"...more than 90% of those using this product were satisfied with it."

Grayson, L. D.: Am. Pract. & Digest Treat. 7:269, 1956.

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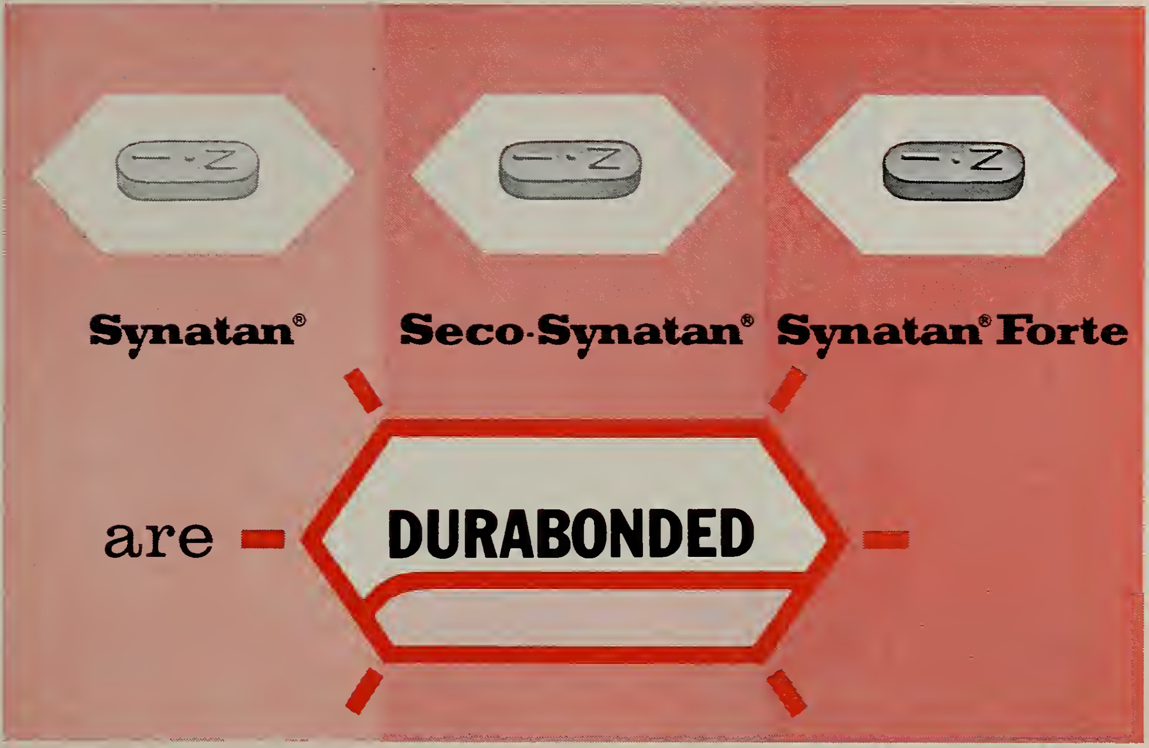

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Plasma Storage Eliminates Danger from Hepatitis

A recent four-year study has given additional proof that storage of pooled blood plasma at room temperature eliminates the danger of hepatitis being transmitted by the plasma.

Hepatitis, a liver disease, is caused by a virus which may be transmitted through transfusion of whole blood or plasma.

Reported in the March 15 issue of the *Journal of the American Medical Association,* the study was conducted at the University of Cincinnati College of Medicine and Cincinnati General Hospital between January 1953 and January 1957. The survey included 282 patients who were given plasma taken from 4,892 donors. This plasma was pooled and stored at room temperature for six months. None of the recipients developed hepatitis.

Dr. Paul I. Hoxworth and Walter E. Haesler Jr., B.S., said several methods for circumventing the problem of hepatitis virus transmission by plasma have been tried since World War II when the problem first became apparent. All methods were unsuccessful in eliminating virus activity in the plasma.

Among the methods tried were: Ultraviolet irradiation of the plasma; addition of chemicals to destroy virus activity, and elimination of pooling, in which plasma from several persons is put together without regard to blood type.

Storing of pooled plasma at room temperature was suggested in 1951.

The Cincinnati study indicates that the storage method is "a practicable and effective solution" to the plasma-hepatitis problem and plasma can now be given to patients without concern over the transmission of serum hepatitis.

This inability to detect hepatitis in the study group "is in sharp contrast" to all previous experiences with untreated and irradiated pooled plasma, in which the infection rate has ranged from 1 per cent in small pools of six or eight units to 22 per cent in larger pools, the authors said.

In addition to causing the virus to lose its activity, the storage method has permitted a return to pooling and has removed the limitation imposed by the use of group-specific plasma, a requirement that had eliminated one of the most important advantages of plasma—use in the treatment of shock while waiting for whole blood to be matched, they said.

Under the new method, the physicians said, it is possible for many blood banks to salvage plasma from outdated blood which is now being wasted. The survey indicates that plasma, when stored, will remain suitable and effective for an indefinite period of time.

The storage method is simple and adaptable to existing blood bank facilities. It requires only the ordinary safeguards necessary to insure other requirements for suitability of plasma.

Unusual Antibacterial and Anti-infective Properties. More rapid absorption . . . higher and better sustained plasma concentrations . . . more soluble in acid urine than other sulfonamides . . . freedom from crystalluria and absence of significant accumulation of drug, even in patients with azotemia. [1]

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New Control Over Sulfonamide-sensitive Organisms. KYNEX maintains the prolonged, high tissue concentrations of primary importance in treatment of urinary infections . . . a therapeutic asset toward preventing manifest pyelonephritis as a complication of persistent bacteriuria during pregnancy and puerperium. Maintenance of sterile urine in such patients was accomplished with 1 tablet of KYNEX daily. [3]

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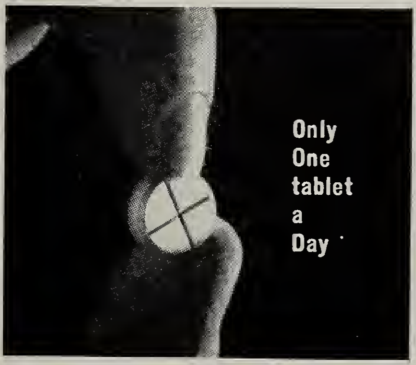

Dosage: The recommended adult dose is 1 Gm. (2 tablets) the first day, followed by 0.5 Gm. (1 tablet) every day thereafter, or 1 Gm. every other day for mild to moderate infections. In severe infections where prompt, high blood levels are indicated, the initial dose should be 2 Gm. followed by 0.5 Gm. every 24 hours. Dosage in children, according to weight; i.e., a 40 lb. child should receive ¼ of the adult dosage. It is recommended that these dosages not be exceeded.

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Tablets: Each tablet contains 0.5 Gm. (7½ grains) of sulfamethoxypyridazine. Bottles of 24 and 100 tablets.

Syrup: Each teaspoonful (5 cc.) of caramel-flavored syrup contains 250 mg. of sulfamethoxypyridazine. Bottle of 4 fl. oz.

References: 1. Grieble, H. C. and Jackson, G. G.: Prolonged Treatment of Urinary-Tract Infections with Sulfamethoxypyridazine. *New England J. Med.* 258:1-7, 1958. 2. Editorial *New England J. Med.* 258:48-49, 1958. 3. Jones, W. F., Jr. and Finland, M.: Sulfamethoxypyridazine and Sulfachloropyridazine. *Ann. New York Acad. Sc.* 60:473-483, 1957.

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Is your medicine cabinet typical of those found in most American homes—a catchall for potions, ointments, pills, salves, sprays, and a countless variety of other medications and sundries?

If so, this may be a potential hazard to you and, more particularly, your children.

Writing in a monthly column in the March issue of the American Medical Association's *Today's Health,* Dr. Donald A. Dukelow said this assortment of drugs and chemicals can be dangerous.

The physician added, "In the rush of an emergency or when sick or sleepy, it is possible to be poisoned or burned by chemicals picked up by mistake."

He advised that "A medicine cabinet—or shelf or drawer—should be used for medicine only. Cosmetics, toothpaste, and shaving materials should be available for easy use without having to hunt for them among pill boxes and bottles."

Other suggestions passed along by Dr. Dukelow include: Never take medicine in the dark; read carefully the directions on the label; take the dose recommended by your physician; keep medicine out of reach of children; close the container at once; never switch tops or covers on pill or powder boxes, and never pour medicine back into the bottle.

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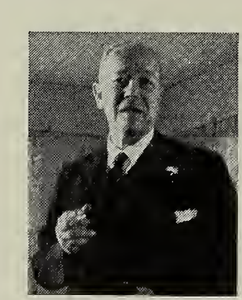

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References: 1. Groskloss, H. H., et al: Clin. Med. 2:885 (Sept.) 1955. 2. Goldsmith, J. W.: Minnesota Med. 40:99 (Feb.) 1957.

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Tranquilizers Helpful in Surgical Patient Care

Four tranquilizing drugs have been found to be helpful in better patient management during surgery.

A clinical study by a team of New York physicians indicates that the drugs have a marked effect in relieving apprehension and stress before an operation. This results in a reduction in the amounts of preanesthetic narcotic and induction barbiturates required during and after surgery.

Writing in the March 22 issue of the *Journal of the American Medical Association* the physicians term the use of tranquilizers a "major change in preoperative regimen."

Medication before surgery is used to reduce psychic and metabolic activity in patients. This develops a feeling of less over-all depression, allowing a smoother, safer anesthesia with a lower incidence of postoperative complications.

Existing narcotics and barbiturates which have been used in this treatment achieved desirable psychic and metabolic effects but also produced undesirable side-effects such as nausea, vomiting, dizziness, and respiratory depression.

The four compounds observed during the three year study were chlorpromazine, mepazine, promethazine and diphenhydramine.

According to the physicians, these drugs "specifically reduce psychic tension by means of a selective action on the central nervous system areas controlling emotional states."

In addition to obtaining the proper psychic results the physicians observed that the tranquilizers "reduce the incidence of postoperative nausea and vomiting to a great extent. This action is most prominent when chlorpromazine is used."

The physicians—Erwin Lear, Irving M. Pallin, Albert E. Chiron, Lucien Rousseau, and Osamu Aochi, Brooklyn, New York—stated that since the compounds used in the study "potentiate the actions of agents used in anesthesia" the amount of anesthetic administered during surgery can be reduced.

This is also true of the postoperative period. Utilizing the tranquilizers and reducing the amounts of narcotics produces a respiratory pattern similar to that of normal sleep. Because of this, the physicians said, patients tend to doze longer in the recovery room which delays the need for reaction narcotics.

The physicians feel that present tranquilizers "do not represent the ultimate in premedication." Because of their specific action on that section of the central nervous system concerned with stress and emotional response and of possible shock-sparing properties, "they are worthy of more intensive study."

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Figures on Frequency of Physician Visits Issued

First detailed report to be published on U. S. National Health Survey was issued recently by the Public Health Service. Its subject is volume of physician visits in third calendar quarter of 1957. The 25-page booklet consists principally of graphs and tables depicting places of physicians' visits (home, office, hospital, telephone), age and sex factors, urban and rural data, etc. Information is distillation of data collected between July 1 and September 29, 1957, in door-to-door interviews throughout country, covering 28,500 persons.

By projection of this sampling, it is estimated that 199 million physician visits were made in this 3-month period. This is at rate of 4.8 visits annually. For males of all ages, rate is 3.9; for females, 5.5. Two out of three visits are in physician's office and only 8 per cent are in patient's home.

Women over age 65 consult a physician most frequently, according to this survey—7.6 times a year. At the other age-sex extreme is the 5-14 female group, with an average of 3.2 visits annually.

—*Washington Report*

Heredity Counselors' Work Explained

(Continued from Page 18)

Chicago; New Orleans; Bethesda and Baltimore, Maryland; Ann Arbor and Lansing, Michigan; Minneapolis; New York City; Winston-Salem, North Carolina; Columbus, Ohio; Austin, Texas; Salt Lake City; Richmond, Virginia, and Montreal and Toronto, Canada.

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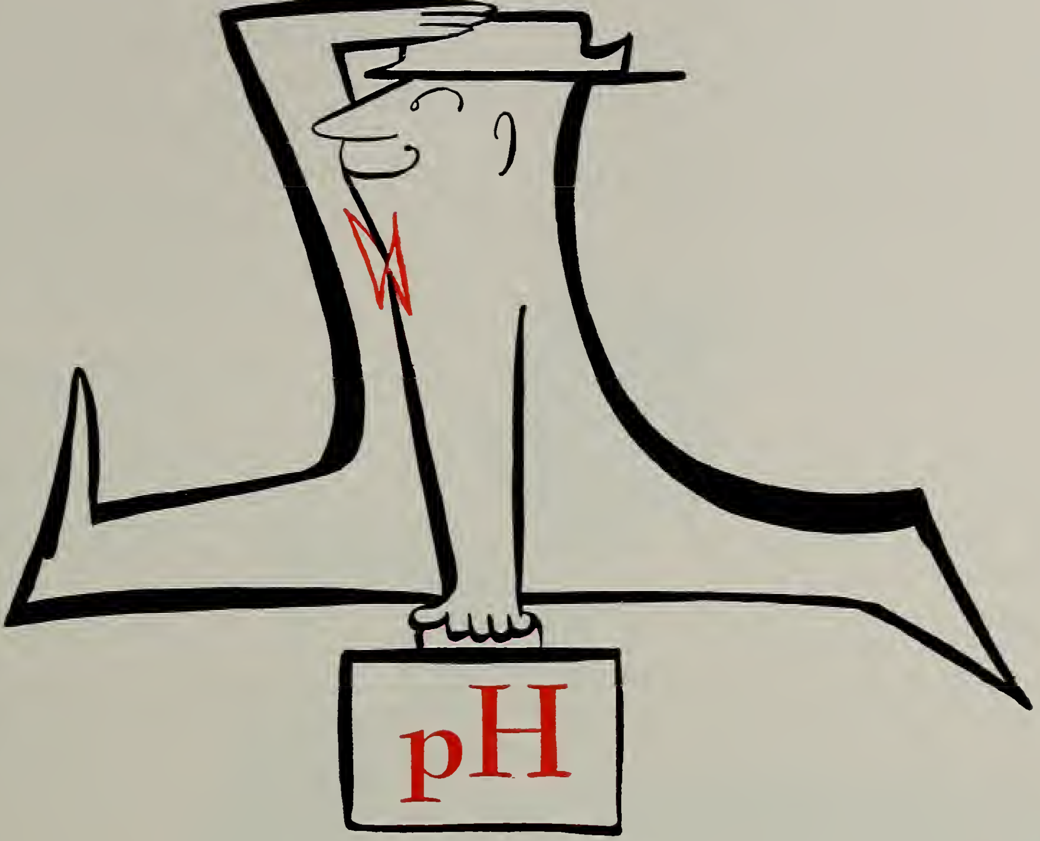

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*T. M. Applied for

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Forty-five Medical Schools Teach Disaster Medicine

Forty-five American medical schools are now participating in a special program dealing with the problems of military and disaster medicine.

The program, Medical Education for National Defense (MEND), was started in 1952 with five pilot schools. It has steadily expanded and now includes more than 14,000 medical students in 45 schools. the program has had a far more enthusiastic reception in the medical schools than was expected.

It is serving a very real need: that of preparing medical students for military service and for meeting the medical needs in a disaster. However, it may face elimination within the next year because of the economy wave now being carried out in military establishments.

The cost of the program has been most reasonable, averaging $10,000 per school per year, or about $30.00 per student. Last year, the total cost, including the operation of a coordinator's office in Washington, was $325,000 for 35 schools.

It is difficult to see how a more economical program could be devised to meet what is surely a real need. It may be very difficult to do a similar job at a later date, and in the event of sudden attack, the lives of many people may depend upon the degree of preparation of physicians in this special field of defense medicine.

The program is carried out in medical schools under the supervision of the individual school in whatever manner the faculty sees fit. Annually, MEND sponsors a series of symposiums at federal medical installations. It also conducts a tour for deans and coordinators of MEND-affiliated schools, designed to introduce them to current problems and trends in the federal services.

Activities in the medical schools include special lectures, conferences, and demonstrations in surgery of trauma, war wounds, radiobiology, defense measures of chemical and biological warfare, aviation medicine, and various other medical civil defense problems.

MEND is a function of the MEND program subcommittee of the Association of American Medical Colleges. It is endorsed by the American Medical Association's Council on National Defense and Council on Medical Education and Hospitals, and by medical officials of the Department of Defense, Army, Navy, Air Force, Public Health Service, and Federal Civil Defense Administration.

—*Civil Defense Review*

The common cold is by far the most frequently occurring acute illness.

—*Health in California*

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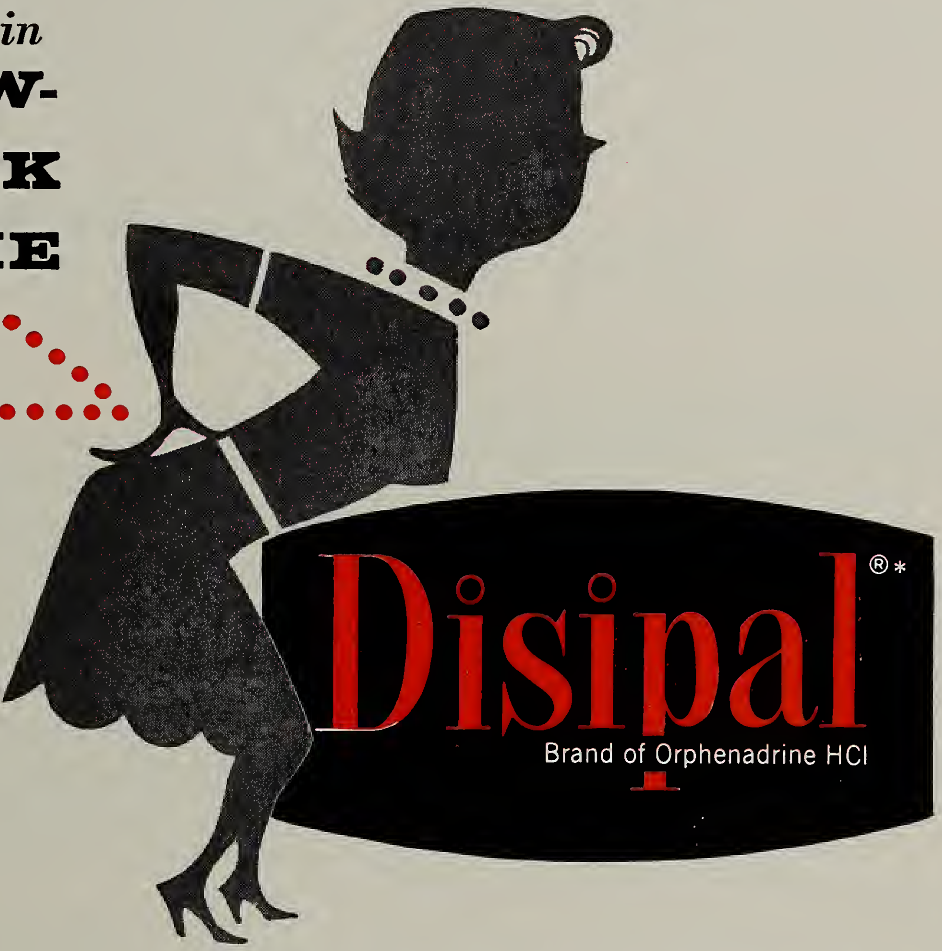

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CLASSIFIED ADVERTISEMENTS

(Continued from Page 22)

SITUATIONS WANTED *(Continued)*

GENERAL PRACTITIONER—Main interest surgery. Age 45. 20 years practice Middle West. Desires relocation in California. Association or purchase of active practice. California licensed. Box 92,125, California Medicine.

GENERAL SURGEON, 37, Board qualified, University Center trained, presently in private practice in California, desires new location or association with another surgeon in medium sized community. Box 94,175, California Medicine.

PHYSICIAN, AGE 33, family, military service completed, Board certified General Surgery, D.N.B., desires association with individual or group. Small community and general practice no objection. Box 94,195, California Medicine.

INTERNIST, now completing third year residency at large public hospital in Los Angeles area, seeks association with group. Box 94,190, California Medicine.

WOMAN OBSTETRICIAN—30 years old, wishes to associate with Obstetrician-Gynecologist or General Practitioner in the San Francisco or Peninsula Area, commencing July 1, 1958. Box 94,030, California Medicine.

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OBSTETRICIAN-GYNECOLOGIST: University hospital trained. California license. Age 30. Extensive OB-GYN experience. Board eligible. Military obligation completed. Available July, 1958. Desire association, partnership, or group in California. Box 94,120, California Medicine.

OB-GYN, 35 years, Board eligible, Hamburg University graduate, 2 years training in Mid-West, 1 year in Germany, 2 years at Cleveland Clinic, wants association with Board certified or specialist, in or around San Francisco or Los Angeles area. Henning Bauer, M.D., Cleveland Clinic, 2020 East 93rd Street, Cleveland 6, Ohio.

OBSTETRICIAN-GYNECOLOGIST, Board eligible, wishes to associate with obstetrician-gynecologist, general practitioner, or group. California license. Box 94,185, California Medicine.

RADIOLOGIST, BOARD CERTIFIED, diagnostic and therapeutic Radiology, training in isotopes. Now in private practice but desire to relocate. No military obligations or connections. California license, 38 years of age, married. Box 94,205, California Medicine.

RADIOLOGIST—University trained. Board eligible. Desires association with older man in San Francisco Bay Area. Box 94,220, California Medicine.

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RESIDENCY IN INTERNAL MEDICINE—Approved 250 bed general hospital in San Francisco. Three year approval; large out-patient department and clinic service. Stipend $325.00 per month first year, plus maintenance. Contact: EDUCATIONAL COMMITTEE, St. Luke's Hospital, 1580 Valencia Street, San Francisco, California.

(Continued in Back Advertising Section, Page 72)

Medical Grievance Committees Spread Across Nation

More than 1,100 American county and state medical societies now have "medical juries"—grievance committees organized to mediate differences between physicians and patients.

The accomplishments and aims of grievance committees are outlined in a special article and editorial in the April 5 issue of the *Journal of the American Medical Association.*

Medical grievance committees are not really new. Since 1871 the committee on ethics and discipline of the Massachusetts Medical Society has been mediating the complaints of patients. What is new is the spread of the committees across the nation. During the last 10 years more than two-thirds of the county societies and all the state and territorial associations have organized them.

Serving on these committees are between 5,000 and 10,000 physicians who fearlessly "judge complaints routinely in the twin light of public interest and professional service," the article said.

On one hand a committee may rule in favor of the patient, saying, for instance, about the physician involved, "Fee for prenatal visits considered excessive."

On the other hand, it may decide in favor of the physician. One example is that of the patient who protested that he was charged $40 for "just one office visit." Investigation showed that, at his own request, the visit entailed a thorough examination including a fluoroscope study, electrocardiogram, and extensive laboratory work. When he understood what the fee covered, he withdrew the complaint with apologies.

The majority of complaints against physicians are "due not to incompetence or greed but to misunderstandings—misunderstandings which could have been dispelled quickly if there had been an opportunity to determine the cause in frank discussion," the article said.

"So many complaints have been caused by a misunderstanding of the basis for a physician's fee that grievance committees spend a good deal of time emphasizing the importance of discussing costs before, and itemizing bills after, medical service," the article continued.

The A.M.A. has taken a double-barreled approach on fees—urging physicians to discuss fees before service and calling upon state and county societies to crack down on the few physicians who have been overcharging.

Most grievance committees do not mete out punishment when they find a complaint justified. A Colorado spokesman has pointed out that "You cannot be prosecutor, judge, and jury all in one body." When disciplinary action is needed, it is usually

(Continued in Back Advertising Section, Page 60)

California
MEDICINE
OFFICIAL JOURNAL OF THE CALIFORNIA MEDICAL ASSOCIATION
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Volume 88 MAY 1958 Number 5

Psychiatric Problems in General Practice

A Symposium

THE FOLLOWING PRESENTATIONS were intended as an aid to medical practitioners other than psychiatrists for a better understanding and handling the various psychiatric problems that they might meet in their practices.

Originally presented jointly by the Southern California Psychiatric Society, district branch of the American Psychiatric Association, and the General Practice Section of the Los Angeles County Medical Association as a postgraduate seminar in 1957, it was so well received that it was felt that practitioners throughout the state could find the material of interest and use.

Psychopharmacology of Drugs

I. ARTHUR MARSHALL, *M.D.*, Los Angeles

SO MUCH PUBLICITY has been given to the so-called new miracle tranquilizer drugs—those "happiness" pills which promise release from anxiety and tension—that it is well to recall that there is nothing new either in the use of such drugs or in the susceptibility of the public to trust in their promise. At least as old as recorded history is the use of depressants, euphorics and hallucigens for the temporary relief of tension, and of excitants for stimulation of energy and mood. While pharmacology has given us a whole new host of synthetics as well as chemical refinements of ancient drugs and improved methods of extraction, it has not as yet introduced any new natural agent in this drug group that was not already known to primitive man.

Since the subject here discussed is the psychopharmacology of drugs, no attempt will be made to define or differentiate in detail between the various chemical properties of the drugs mentioned. My purpose, rather, is to examine these drugs as they are used to affect or bring changes in the psychological homeostasis of the patient. No responsible physician, certainly, would minimize the important role that the tranquilizer drugs have in the treatment of emotional disturbances. They have brought relief from anxiety; they have reduced or eliminated violent behavior in agitated patients; they have often made patients amenable to therapy who could not before be reached. But they have not cured—nor are they likely to do so. Intelligently used, they can be an effective aid in treatment. Used indis-

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From the Department of Psychiatry, University of Southern California School of Medicine, Los Angeles.

Presented as part of a postgraduate seminar by the Southern California Psychiatric Society and the General Practice Section of the Los Angeles County Medical Association.

Submitted January 22, 1958.

criminately, they can precipitate psychological as well as physiological catastrophe.

By far the most dramatic results with these drugs have been achieved in mental hospitals where psychotic patients have frequently shown astonishing improvement when given them. The judicious use of tranquilizing drugs, along with proper supervision by the hospital staff or a physician treating a patient at home has been of incalculable value. It is in the use of these drugs as they are prescribed to effect a change in the psychophysiological state of the outpatient that greater caution must be exercised. The largest number of outpatients who are treated by physicians for psychogenic disturbances fall, loosely, into a group whose emotional maladaptations are due to unresolved unconscious conflicts and who attempt to resolve these unconscious emotional conflicts in a manner that handicaps their effectiveness in living. They may have tension, depression, increased excitability of the nervous system, anxiety, headaches, generalized pains, weakness, dizziness or palpitations.

The prescribing of tranquilizing drugs for such patients is directed toward the alleviation of these symptoms by their depressant action upon the central nervous system. While the drugs may achieve the therapeutic aim of relieving, temporarily, the symptoms, in no way do the drugs attack the problems which precipitated the symptoms. The magic pill which will solve personal problems has not yet been invented. Resolution of a problem demands thought. Drugs relieve some of the feelings and distress that come with thinking. Indeed, a sufficiently high dosage can make it impossible to think at all. But when the drug is withdrawn, feelings and thinking return. Unless the problem which precipitated the symptoms has been attacked, nothing has been accomplished except to give the patient for a short period a feeling of self-transcendence. When tranquilizers are prescribed for patients, it is important that, concurrently, some form of therapy be attempted. This does not mean that the patient must be under the care of a psychiatrist, but it does mean that with the writing of a prescription for a tranquilizing drug, the physician should allow for time in which the patient can ventilate about his problems.

Of the tranquilizers, the phenothiazines and rauwolfia drugs have been the most effective in reducing psychological tensions. Both are depressants and have many properties in common, although their clinical effects, in large dosages, are often dissimilar. Both drugs can produce a variety of side effects which can be relieved either through reduction of dosage or withdrawal of the drug. Because of the depressant action of both these drugs upon the sympathetic nervous system, they should never be prescribed for depressed states. Since both drugs can also induce depression, it is important that the patient be closely supervised by the physician and that the physician allow sufficient time during office visits to understand what is going on emotionally with the patient. Drug-induced depressions can be alleviated by dosage reduction or withdrawal of the drug. In cases of severe depression, electric shock may be necessary.

The meprobamates and the diphenyl methanes are likewise depressants but because they have relatively few side effects are the most widely used in everyday practice. Recommended for "milder states of nervous system hyperactivity" they can, when used in large dosages, produce drowsiness, dizziness, nausea, blurring of speech and impairment of muscular coordination and of motor responses. They can decrease the patient's ability to concentrate. In smaller dosage they produce less intense effects; and because there is a relative absence of toxic and allergic side effects, patients often yield to the temptation of using them indiscriminately, to say nothing of passing them on to a neighbor.

Another group of drugs all too frequently used to produce changes in consciousness or emotional equilibrium are the amphetamines. The amphetamines, to my mind, require very careful examination as to the psychological repercussions following their use. At first the amphetamines bring about a feeling of well being: Fatigue fades; a swell of energy surges through the body; depression is lifted; the spirit soars, and temporarily, there is a feeling of self-transcendence. (These effects have been achieved from time immemorial through the use of opium and hashish, yet rare is the user of an amphetamine who would not be shocked to have his dependence on the amphetamine compared with resorting to these more ancient drugs. The difference is only one of degree; at best we can only say that the amphetamine is less harmful.) As the amphetamine wears off, it is followed by depression, fatigue, and insomnia often severe enough to require sedation. Very soon patients using amphetamines find that dosage must be increased and a vicious cycle of stimulating oneself during the day and resorting to sedation at night begins.

Fatigue is a signal that the body requires rest. The amphetamine eliminates this signal without restoring to the body the necessary ingredients for renewed energy, and, in fact, stimulates the tired mechanism of the organism to efforts for which natural energy is absent. Resorting to amphetamines to combat fatigue is not unlike putting ethyl alcohol or ether into a worn motor. It may make a car run effectively for a short time, but very soon the cylinders will give way.

This is not to say that there are not times when good medical practice indicates the need for amphetamines. My objection is to the use of them in such a way as to obscure a psychological problem.

Just as fever is an indication that something is wrong with the functioning of the physiological mechanism of the body, so are anxiety, depression, fatigue or prolonged insomnia signals of increased "fever" in the psychological mechanism. Just as fever ought not be alleviated without effort to determine the cause, so these signals must be examined and evaluated before chemotherapy to reduce or eliminate them are prescribed.

Tension, frustration and anxiety have existed in all ages and in all cultures, and probably will continue to plague us so long as man strives. The goal of chemotherapy and psychotherapy cannot then be to eliminate these feelings and reactions merely for the sake of achieving tranquillity, unless we are prepared to produce human vegetables.

The goal of therapy, whether chemical or psychological, should not be merely to effect a state of blissfulness. The goal, rather, should be to use all the therapeutic tools at hand to enable men and women to participate actively in their environment and to cope with the realities of that environment. A sense of well-being cannot for long be achieved by obscuring the presence of conflicts and dangers, but only by recognizing and dealing with them. The patient must learn how to use his energies toward handling conflicts, removing them when possible, or changing those areas which create threatening situations for him. And through it all, he must learn how to cope with his feelings as he is reacting to his environment.

14140 Ventura Blvd., Sherman Oaks.

Psychiatric Emergencies

STEVEN D. SCHWARTZ, ***M.D.,*** **Los Angeles**

HEIGHTENED INTEREST in the early recognition and prompt treatment of psychiatric emergencies in medical practice has come in part from the changing pattern of medical illnesses dealt with by general physicians, who now less often treat acute infectious inflammatory diseases and more often of the intermittent disabling illnesses consisting mostly of psychosomatic disorders, emotional states and geriatric problems. These illnesses are most frequently seen initially by physicians in general practice, who are in a most strategic position to serve as a first line of defense against acute psychiatric disorders.

The Suicidal Patient

Suicide, which must always be anticipated in depressed or delirious persons and in acutely psychotic patients, is a true psychiatric emergency. To recognize these psychic disorders is to anticipate attempted self-destruction. As many clues as are available must be sought and utilized to differentiate the threat of suicide as a dramatic manipulatory device from the likelihood of its occurrence. A depressed patient shows a decrease in psychic and motor activity, a feeling of hopeless despair and a withdrawal of interest. He talks of suicide, speaks of remorse and has feelings that his family is better off without him. He is unable to plan for the future, is indecisive and feels lost. He is self-depreciatory and very early complains of loss of appetite. He sleeps poorly, awakens early in the morning and is unable to return to sleep. This accounts for many suicidal attempts during the early morning hours. The disturbance in mood is frequently preceded by many vague physical complaints usually indicative of a general slowing up. The element of guilt, self-depreciation and feelings of hopelessness separate this group from the neurotic states with concurrent depressive anxious feelings in which the gesture of suicide is used as a controlling device. By this means such people gain some point in their interpersonal relationships—either affection and solicitude or, perhaps, the release of resentment held towards others. Such patients need not be put in a hospital since, having gained their point through threat or gesture, they are for the time being satisfied.

A depressed, suicidal patient, however, should be put in a hospital and there every precaution must be taken against the possibility of self-destruction. Such a patient needs to be on the ground floor or first floor of a closed, screened hospital unit or with special nurses if adequate closed facilities are unavailable. Special nurses are helpful, since such personnel act as parental substitutes, giving adequate attention and solicitude as compensation for injured self-depreciatory feelings. Direct questioning need not be avoided. Questions should be frankly concerned with the patient's spirits, the presence of thoughts of death, his wish to live or die, his ability to face and plan for the future. The physician frequently is reluctant to ask such direct questions lest he offend the sensitivity of the patient; but more frequently such reservations may be based on his own fears and the misconception that direct questions may implant ideas of suicide.

From the Department of Nervous and Mental Diseases, College of Medical Evangelists, Los Angeles 33.

Presented as part of a postgraduate seminar by the Southern California Psychiatric Society and the General Practice Section of the Los Angeles County Medical Association.

Submitted January 22, 1958.

It is the moderately depressed patient who is most likely to try to kill himself, rather than the profoundly depressed person in the depth of despair whose initiative is at such low ebb that none of his faculties can be mobilized for any action.

Acute Intoxications

The acute intoxications including alcoholic, bromide and barbiturate overdosage represent true psychiatric emergencies with a real threat to the life of the patient. Such intoxications may exist alone or in combination with any injury or illness in the course of which physical resistance is lowered. In these conditions there is primarily a loss of coordination, but excitement and some combativeness. The symptoms of barbiturate overdosage are clouding of consciousness, ataxia, nystagmus and slurred speech. The treatment of barbiturate intoxication includes immediate gastric lavage, maintenance of adequate respiratory exchange, suction for removal of pooled secretions in the throat, antibiotics for the prevention of pulmonary complications and administration of adequate fluids and mild stimulants. Sudden complete withdrawal of barbiturates may cause seizures. Bromide intoxication results in agitated states with increased salivation and bizarre visual hallucinations. Treatment includes the "forcing" of fluids, giving enemas and the administration of sodium chloride.

Delirium, a psychiatric emergency, is characterized by clouding of consciousness, gross distortion in perception, disorientation and at times hallucinations. Such reactions sometimes occur also in physical illness, as in cardiac decompensation, pulmonary edema and postsurgical states as well as in eclampsia and in exhausting infectious disease. The symptoms of tremor, sweating and flushing, together with disorientation and cloudy mental state, bespeak the diagnosis. Such patients are best treated in a quiet, nonstimulating, restful environment in a dimly lighted room with special nursing care. The presence of a few personal possessions such as photographs helps to keep the patient in close contact with reality. Close personal attention, adequate intake of fluids and maintenance of nutrition with small doses of insulin are recommended. Giving Sparine® or reserpine intravenously is helpful. Restraints are not indicated and should be avoided whenever possible. Patients in delirium are frightened and must be protected against their own fears and prevented from panic reaction which may result in suicidal attempts to escape their projected fears.

Organic Mental Syndromes

With the conquest of acute infectious diseases, the life span has increased, with the result that physicians now are dealing more and more with older patients. General physicians nowadays are confronted by many problems associated with aging, which are frequently diagnosed as organic mental syndromes. The psychic implications of senescence are frequently a psychiatric emergency, especially if there is a reaction of excitement with disorientation and confusion. The patient may feel lost, may be frightened and perplexed and react to his situation with much antagonism. Excitement and agitation in senescent patients must be treated with quiet assurance and administration of specific tranquilizers. Keeping the patient in the familiar surroundings of home, limiting the number of visitors, giving special solicitous nursing care (best provided by a favored member of the family) and continued care by the physician are advisable in light of the large psychological component in the genesis of senile deterioration. The state of the patient is not entirely owing to the vascular changes in the brain, but is due in part to changes in his environment or in his attitude toward himself. The older person begins to feel himself a burden with limitations in his physical and mental capacity. He loses loved ones and friends through death, and the world is new and strange to him. He senses the hostility in others toward him for being in the way and he reacts with resentment. Guilt over resentment leads to self-depreciation and depression. Loneliness leads to hypochondriacal preoccupation. The patient becomes greatly concerned with bodily symptoms and excretory functions, since his body now provides the main source of interest. He is, as it were, withdrawing to his own body for solace. Fearing the loss of identity in terms of loss of usefulness and sexual interest, he no longer tries to adjust to new conditions. He withdraws, becomes ill, shows increasing irritation, combativeness and argumentation. He frequently is depressed and has paranoid ideas in which he projects much of his feelings of insecurity and hostility on others.

The goal of treatment best attained by the physician is to help the patient to accept himself. Interest and understanding on the part of the physician is essential in order that the aged person has someone to talk to, someone he feels is sympathetic and interested in him personally. The patient should be kept in his own home, his life orderly and routine and free of nagging relatives. He should be attended by a family member. A nightlight should be kept burning to avoid fright, and every new procedure should be explained beforehand.

Many of these elderly patients will recover from the acute psychiatric emergency even though there may be damage to the brain.

Acute Functional Syndrome

The psychiatric emergency of acute functional psychic disorder results from a fear of loss of control of thought and behavior. This fear leads to a desocialization, withdrawal, and alienation from others. The anxiety which cannot be tolerated because of the fear of psychic disintegration leads to uncontrolled excitement or extreme inhibition. In the paranoid schizophrenic and manic-depressive reactions, the patient may have negative, hostile destructive feelings toward persons on whom he is dependent. The conflict may erupt in violent, uncontrolled, aggressive behavior, often preceded by physical complaints of vague, often bizarre nature. Paranoid reactions are often introduced by intense hypochondriacal complaints for which the patient will accept no reassurance of explanation. Expressions of hatred and of obviously false beliefs are diagnostic. When the hatred becomes so intense that the patient can no longer contain himself, he will project his feelings of hostility upon others, feel in danger of attack and therefore attack others or himself. The warning signs are increasing tension, increasing agitation, resentment and demands from others. Putting the patient in a hospital and the administration of promazine is recommended.

Paranoid reactions in postsurgical patients, which occur frequently, are best treated with frank discussion of misinterpretations and misidentifications, and with assurance and orientation to reality.

Anxiety States

The acute anxiety attack may be a psychiatric emergency, especially when it assumes panic proportions. There are multiple somatic symptoms, and autonomic imbalance which may be likened to the racing of an automobile engine while the car is stationary. Such anxiety is usually related to aggressive thoughts and fantasies which are very frightening to the patient. These states are frequently precipitated by visual scenes of violence on television or motion picture programs. The patient feels his heart palpitating, has difficulty in breathing, is sweating or feels chilly, and there is a great fear of impending death. Sleep produces disturbing dreams in which he relives threats of his childhood. He is helpless, is rooted to the ground, is falling over a precipice. He wants to call for help but is unable to speak.

Such conditions can engender reactive anxiety in the physician who is treating the patient. It is essential that the physician, having satisfied himself as to the absence of organic condition through adequate physical examination, remain calm and unhurried and be reassuring to the patient. Any semblance of aggression in the treatment of a violent, agitated patient must be assiduously avoided, for the patient is acutely fearful of aggression. Physical force, restraints, hustling or mishandling of the patient is contraindicated, but a firm, kindly and authoritative touch will be of immeasurable help.

Postpartum Psychic Reactions

Postpartum anxiety and depressive reactions occur in situations in which maternity mobilizes in the patient earlier childhood conflicts—usually of sibling rivalry or of mixed feelings toward her parents. Here reassurance, adequate sedation, the use of a motherly nurse and temporary relief of the maternal responsibility will often lessen the intense agitation the patient feels. The closer the reaction to the time of birth, the greater the possibility of psychotic reaction. The patient in whom feelings of inadequacy, tension and fears of hurting her child develop after she leaves the hospital, is probably the neurotic anxious patient. She can be effectively treated with appropriate sedation and psychotherapy.

DISCUSSION

The acute psychiatric conditions in medical practice consist primarily of depression with possibility of suicide, acute intoxication, delirium and other organic and functional mental syndromes. Psychologically and clinically these are manifestations of the fear of disorganization as seen in the organic mental syndromes, desocialization as seen in the psychoses, and deterioration as seen in the aged. The diagnosis is not often obscure but effective management may be difficult, since treatment is also based on the physician's own attitude toward psychiatric disorders.

Disorders of thought and behavior are defensive mechanisms against overwhelming fear of psychic dissolution, just as fever, pain, leukocytosis and tenderness are attempts of the body to localize infection and prevent spread and bodily destruction. The symptoms of psychic disorder are attempt at restitution and to ward off the inroads of the disorder. Psychiatric patients are fearful of their own internal disruptive and aggressive drives. The fear of loss of control leads to disorganized behavior. The physician must lend stability through his own calmness and reassuring attitude. He must not be fearful nor aggressive. Rarely will violence be directed toward the physician by the patient. As between the patient and the physician, the former is always more fearful and it is better that the patient remain the anxious one. In such situations the treatment of the acute psychiatric disorder, although exigent in nature, need not be a harrowing experience for the physician.

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Psychiatric Aspects of Chronic Disease and Rehabilitation

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An ironic consequence of the progress of medical science in the past century has been the striking increase in the number of persons with chronic diseases. Countless thousands who would have died from illness or injury in the past are now enabled to survive, albeit with some form of residual handicap or dysfunction. Seventy-five years ago chronic diseases caused only about 7 per cent of all deaths; today they cause more than 75 per cent. The number of handicapped people in this country today is estimated to be close to thirty millions. There are more than one million each of hemiplegics, amputees and diabetics, about three million persons with orthopedic disabilities, over ten million with cardiovascular diseases, and about fourteen million with disabling mental illness, blindness, deafness and various other neurological disorders.

But these numbers alone, enormous though they be, cannot begin to tell the whole story of individual human distress, disruption of family life and economic disaster that lies behind them. Almost every person with a chronic disease involves many other persons around him in a pattern of suffering. The problem of rehabilitating the chronically ill and disabled, therefore, involves more than the happiness of the patients themselves. Its implications bear on the well-being of almost everyone in our society.

Although rehabilitation has onlv recently appeared on the scene as a specialized aspect of medicine, in actuality it is as old as our profession, and is practiced in varying degree by all physicians. Essentially it is merely sound "follow-through" medical practice. It implies the recognition that the physician's responsibility to the patient does not end with the termination of an acute illness or surgical procedure, but is finished only when the patient has been enabled to resume the fullest degree of functioning consistent with his residual abilities.

In general there are three major phases to this task. The first of these is the phase of physical restoration, which includes chemotherapy, physical therapy, exercises, plastic and reconstructive surgical procedures, artificial limbs and hearing devices. The second phase might be called the phase of rehabilitative education, in which the patient is taught specific techniques which make it easier to live with his handicap. This includes such things as learning Braille, the use of seeing-eye dogs, lip-reading, the use of crutches or artificial limbs, and also the entire area of vocational training. The third phase, the one to which my remaining remarks are directed, is that of psychological rehabilitation. In some ways this is the most important aspect of the entire rehabilitation procedure, for unless it is carried out successfully, all efforts at physical and educative rehabilitation may fail. There are generally two main goals—that of enabling the patient to "accept his handicap," and that of getting the patient to resume his life contacts and functions to the fullest reasonable extent.

As to the problems involved in the attainment of these goals, there are four major aspects to be considered: The attitudes of the patient; the attitudes of the patient's family; the attitudes of the physician and his therapeutic "team"; the attitudes of society. Although each of these aspects will be considered separately in this discussion, it must be borne in mind that they are all interrelated and interdependent.

Attitudes of the Patient

Without question, the patient himself and the quality of his personality is the most important factor in the rehabilitation process. We are all aware of the great variations in response to disability that different people can show—from the patient who completely retreats from life because of a relatively minor handicap to the transcendent, incandescent courage of a Helen Keller or Franklin Roosevelt. What is the basis for these variations? There are many factors involved. Some of these are:

¶*Time of onset of the disease or disability.* Generally, a person who has some handicap very early in life is more likely to be able to accept it than someone who acquires the same handicap in his prime. We see this, for example, in the adjustment to the handicap of blindness or deafness.

¶*The part of the body involved.* In addition to their obvious or conscious importance to us, different parts of the body also may have, for certain persons, great unconscious significance which may have considerable bearing on their reaction to a handicap. The skin, eyes, heart and reproductive organs, for example, all carry a particularly high libidinal investment for most people, and injuries or diseases which involve them are likely to cause greater than average emotional stress.

¶*The rate of onset of the disability.* In general, the slower the rate of onset of a disability, and the more time thus available for the patient to make the inner psychological adjustments to it, the less the likelihood of development of a severe emotional disorder.

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¶*The life situation in which chronic illness developed.* This is a factor of great importance. Not infrequently the life situation is the very soil out of which the illness has grown, as in the various diseases of adaptation, the so-called psychosomatic disorders, and indeed even in such conditions as tuberculosis, recent studies having shown a high correlation between long-standing stressful life situations and the incidence of the disease. Clearly the assets and liabilities in the life situation, in the home, the economic circumstances, the vocational opportunities, the attitudes and relationships to friends and relatives, as well as the specific nature of the disability itself will all have important bearing on the ease or difficulty with which a patient can be enabled to return to a useful existence.

¶*The element of "secondary gain" from the illness.* This refers to the degree to which the illness satisfies certain psychological needs in the patient and therefore makes him unconsciously reluctant to get well. An illness or handicap may satisfy certain unconscious dependency needs in a patient, or constitute a justifiable excuse for retreating from a previously difficult life situation; it may carry with it a pension or other financial compensation which the patient is reluctant to give up; or it may serve as an outlet for aggressive impulses by providing the patient with a basis for emotional control or domination over some member of his family, such as a parent, a child or a spouse.

¶*Stereotyped misconceptions concerning the illness or handicap.* This involves psychological misconceptions or prejudices concerning specific disorders which are widespread in our society and which often have to be dealt with in patients with these handicaps. In this category are assumptions that arthritic patients become repulsive, that persons with heart disease can never walk upstairs, that blind people become beggars, that deaf people are objects of ridicule, that mental illness is incurable. With these assumptions generally go attitudes of shame and inferiority, expectations of contempt and condescension from others, feelings of hopelessness and reactions of depression or defensive hostility.

¶*The emotional maturity of the patient.* Emotional maturity is a much used, much abused concept which covers a multitude of adaptational personality traits. In the present context I am using it primarily to designate the capacity of a person to tolerate frustration and to face reality honestly. This is one of the decisive factors in the ability of a patient to face the fact of irreversible handicap rather than take refuge from reality by the mechanism of denial. The need to face and accept limitations, incidentally, is not peculiar to the chronically ill, it is a universal aspect of human existence. All of us are constantly faced with the necessity of accepting limitations at various stages of our lives. When we are young we are denied the privileges of maturity; when we mature we must accept the limitations that go with the loss of youth. The limitations that are imposed on the persons with diabetes, with heart disease and arthritis, for example, are greater in degree, it is true, but they are still essentially extensions of the kinds of limitations that the aging process ultimately imposes upon all of us; and the emotional maturity of the person who is limited plays a decisive role in his ability to accept them.

Attitudes of the Patient's Family

The attitudes of the patient do not develop in a vacuum. They are, as was pointed out previously, interrelated with the attitudes of the family, the physician and the social milieu. Let us consider attitudes which may be encountered in members of the patient's family with which both the patient and the physician have to cope. Some of these are:

(a) *Guilt and self-accusation* which in turn may lead to

(b) *Seeking out of quack doctors or remedies.*

(c) *Denial of the existence of the handicap.* This is sometimes linked with an unrealistic insistence upon a completely normal life for the handicapped patient—as when the mother of a deaf child insists on the child's going to a "normal" public school rather than to a special school for the deaf, thus emphasizing rather than minimizing the child's sense of difference from other children and denying him the specialized kind of training which he needs; or when parents of an orthopedically disabled child put pressure upon him to undertake physical tasks beyond his capacity in order to "prove" his normality.

(d) *Shame and embarrassment,* which in turn accentuates that of the patient.

(e) *Feelings of hopelessness.*

(f) *Defensive hostility,* and a tendency at times to project the blame for the patient's illness on the physician. It is important that the physician recognize the anxiety and fear that lie behind such hostile reactions, and that he address himself to these underlying feelings when necessary. This will almost always prove much more effective than if he responds with counter-hostility, as he is often tempted to do.

Attitudes of the Physician and the Therapeutic Team

Experience has shown that four-fifths of all rehabilitation procedures can and should be carried out by the physician who is responsible for the primary medical care of the patient. In perhaps no area of the vast field of medical practice is there greater need for the art as well as the science of medicine than in the problems posed in rehabilitation. The art of medicine means a number of specific things with regard to the chronically ill. It means helping the patient accept the reality of his disability but at the same time never totally closing the door on hope. One has only to recall the status of diabetic persons before the advent of insulin, or of persons with congenital and rheumatic heart disease before the recent remarkable advances in operations upon the heart, to realize that there is a rational and justifiable basis for never totally obliterating hope in the patient. In many patients this spark, feeble though it may be, is the decisive factor in enabling them to endure what might otherwise become for them an intolerable state. The art of the physician also implies being able to help the patient focus not on the disability but rather on his remaining abilities. One of society's misconceptions with regard to health, which we as physicians have occasionally been seduced into sharing, has been the myth of anatomical completeness as a measure of human competence or fitness. On the basis of this myth, thousands of persons are sometimes regarded as being disabled when in fact, viewed from the standpoint of their remaining abilities, they are highly competent to do many things. One has only to recall, for example, the magnificent job which so-called 4-F's did in factories during World War II. We must also keep in mind the remarkable way in which the human body is able to compensate in one area for defects in another. The increased sensitivity of touch and hearing, for instance, in the blind makes them as much as 30 per cent more effective in certain forms of work, such as darkroom photography, than are sighted people. The fact is that most of us rarely utilize more than 25 per cent of our physical resources. Man can live with half of a lung, a third of a kidney, half of normal blood volume, as little as one sixty-fourth of a liver, with no stomach at all and with large parts of the frontal lobes of the brain missing. If we but keep in mind the remaining abilities rather than the existing disabilities of chronically ill patients, we can begin to appreciate the enormous potential of human resources and productivity that is available in the 30 million chronically ill people in our country—a potential which our society neglects to its own great loss.

The faith of the patient in the ability, interest and sincerity of his physician is another of the major motivating forces in the rehabilitation process. The attitudes of the physician as a special kind of parent-surrogate toward the patient are therefore often of decisive importance. If the physician feels hopeless or alarmed, these attitudes are quickly reflected in the patient's attitudes. If the physician feels a secret contempt or aversion for the patient, this too is inevitably communicated. It is not unusual for serious defects to arouse anxiety in the physician. Like all other human beings, physicians are capable of being deeply disturbed when they come face to face with evidence which demonstrates the transitoriness and vulnerability of human existence. Colleagues have occasionally admitted to me a distaste, for example, for working with the elderly and the seriously infirm precisely on this basis. Yet I think it is unquestionable that a physician must make every effort to become aware of such attitudes within himself and to overcome them, since they are in direct antithesis to the humanitarian basis of medical practice, as well as a serious barrier to his ability to help such patients. Over and over again through the years I have been impressed by the dramatic way in which the clinical picture in chronically ill persons can change when someone takes a sincere and genuine interest in them or when they begin to feel needed and wanted again in their environment. I am sure that I do not have to provide examples of this to this audience, and that such instances will spring to all of your minds.

One other word about the role of the physician in this field. This is an area in which the practice of suggestion, judiciously used, can often be a great help to patients. Every experienced physician uses this knowledge either consciously or intuitively. In the past several years, in line with this fact, a new respect for the potency of placebos has once again come to the forefront of our medical awareness. Indeed, there is reason to believe that the value of even rationally indicated preparations can be either facilitated or impaired by the degree of confidence in them which the physician is able to arouse in his patient.

Attitudes of Society

Society plays a significant part in the problem of the chronically ill. It is not only that social attitudes of fear and rejection may make the ill person such a pariah that rehabilitation may be impossible—as was once true in the case of lepers and is still likely to be true of epileptic or syphilitic persons and the mentally ill. Nor is it merely that social prejudices may bar the way to vocational rehabilitation as in epilepsy, mental illness and old age. (Incidentally, if I may digress for a moment, I know of no social myth that can be more destructive to the human personality than the myth of the desirability of retirement—as though work were some kind of intolerable burden with which men and women are saddled, and the greatest desideratum in life after the age of 55 were to be able to return to some kind of perpetual adolescent play until we die. For most people work plays a large role in maintaining both physical and mental health. It is not only a major source of our sense of identity, it is what makes people feel wanted and needed. I am sure that almost everyone has seen the morale of elderly persons become shattered when they have been forced to stop working, and then has seen them rapidly deteriorate both physically and mentally.)

In addition to these well known aspects of the influence of society on the chronically ill, there is still another aspect of it which is less commonly recognized. This is the relation of social attitudes particularly to those illnesses which we call the psychosomatic disorders. Talcott Parsons and others have pointed out that all illnesses, but particularly mental illnesses and the psychosomatic diseases, represent forms of deviant behavior which are sanctioned in our society. For example, the person who deals with his anger by repressing it and developing chronic hypertension is regarded as "sick" and is entitled to sympathy, to medical help and disability pensions; but the person who releases his anger in the form of fighting, stealing or setting fires is regarded not as sick but as criminal or delinquent, and as meriting only a punitive approach to his problem. Under certain circumstances, as in wartime, even some psychosomatic or emotional disturbances may not receive social sanction, and the person who has the disturbances may be labeled as a coward or a malingerer; the "sick role," in other words, is denied him.

Rehabilitation and Rehabilitative Services

Research into the social epidemiology of disease is still in its infancy. Suffice it to recognize that social attitudes, prejudices and evaluations play a not inconsiderable role in the physician's task of trying to rehabilitate the chronically ill. This is an area, therefore, of which the physician must not only take cognizance, but in which he may reasonably wish to seek some corollary assistance with his patient. I refer here particularly to help which is available from medical and psychiatric social workers and from vocational advisors. Often a physician who is well aware of the rehabilitation help which is available from physical and occupational therapists, from psychologists and psychiatrists and from other special consultants, may quite overlook the availability of the vocational and social workers who are experts in the utilization of community resources for the rehabilitation of handicapped persons.

It is well to bear in mind, however, that in some instances a return to employment may not be a feasible or optimal objective. It may, nevertheless, still be an important goal of rehabilitation to enable the patient to get out of a hospital, to return to live with relatives and to be able to take care of his own basic needs. A recent study at Goldwater Memorial Hospital in New York City, for example, revealed that out of 95 unselected patients receiving custodial care because of chronic illness, all but seven were able to be returned to their homes when a proper rehabilitation program was instituted.

A note of caution: In striving for the rehabilitation of a patient with a chronic illness, it is important that the *total* adjustment of the patient be kept in mind. Too much striving for physical recovery, for example, at the cost of the total emotional adjustment may be one-sided. A patient who devotes all his time to muscular exercise, trying to compensate for a physical defect, may become a psychological invalid even though his muscular function improves. By the same token, pushing a patient too ambitiously to achieve a life goal beyond his physical limitations may cause a stress breakdown. Schlesinger described the case of a person with crippling of long-standing from poliomyelitis who strove so hard to rehabilitate himself out of a wheelchair when he heard of the new techniques of rehabilitation that he died of a coronary occlusion at age 30. Rehabilitation, in other words, must seek optimal not maximal goals for the patient.

Rehabilitation of chronically ill or disabled patients implies that the physician's responsibility is terminated only when the patient has been enabled to resume an optimal degree of functioning consistent with his residual abilities. In this task the psychological goal of enabling the patient to face his handicap honestly and of motivating him to return to usefulness is a paramount one, since without this accomplishment the physical and reeducative goals of rehabilitation may be foreclosed. In the fuller understanding of the dynamic interrelationship of the psychological attitudes of the patient, the patient's family, the physician and society lies the key to the more effective rehabilitation of such patients and a more satisfying practice of medicine.

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Psychiatric Information for General Practice

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It is imperative that a physician bear in mind that to his patients he is a very significant and emotionally highly charged figure. By the nature of his unique position in society a physician has great impact on the patient, either positively or negatively, rightly or wrongly. Almost anyone in our social structure remembers that from childhood on it was the physician who was called when the family was in trouble and the parents were frightened. This gave him great power in the eyes of the child, and the impression lives on in the unconscious mind of the adult.

The First Interview

Another basic consideration is the form and the content of the initial interview. It is required that the physician pay strict and respectful attention to the patient's history and to his behavior. Reactions to the patient's complaints must not be flippant, casual or neglectful. Writing extensive notes during the interview is proscribed; lest it seem to the patient that the physician, busy writing, is listening with but half an ear. Above all, one should not attempt to fill out a form in the first part of the first interview. I have seen many patients who would never return to a physician who started out questioning them and filling out a form. They felt, and I believe they were right, that he was more interested in record-keeping than he was in their suffering. One can get around to filling out the form later in the interview or at another interview.

In the first interview it is essential to appraise the patient's condition. Appraisal means more than merely establishing a diagnosis. Appraisal should try for the answer to the primary question: Is the condition that is to be dealt with static or chronic, or are there signs of progressing decompensation and loss of equilibrium. The entire plan of procedure depends on the answer to this question. As long as the patient is in some state of equilibrium, neurotic or psychotic though it may be, there is time to see the patient several times and to reach conclusions deliberately. If, however, there are signs that the condition may be the beginning of acute decompensation, whether psychotic or neurotic, it is imperative to recognize the prospect, for patients in such circumstances require specialized treatment. It is true that the general physician who appraises the patient may have to do the emergency first aid work (which is to be discussed later) but, by and large, acute decompensating neuroses or psychoses ought to be treated by specialists.

The crucial issue in determining whether or not one is dealing with acute decompensation or with a patient who has achieved and maintained some equilibrium has to do with the relationship between the patient's control apparatus and his impulses. If during the interview it is observed that the impulse-control balance is shifting toward impulsivity—that is, that the patient is pouring out material, unable to stop and losing control over his thinking and judgment—then the physician has to change the nature of the interview, must assume control of the situation. Instead of passively listening to the patient or encouraging the patient in very general terms to tell his story, the physician ought to intervene and ask specific questions or change the subject, or even tell the patient it is best now to stop talking for the nonce, while some other aspect of the examination is carried out. Above all, when the patient seems to be losing control, one ought to stop probing questions of any kind.

If the physician determines in the interview that the controls of the patient are strong enough to contain the impulsive elements, then it is permissible to ask questions for a deeper understanding of the problem. By and large, however, the best information is obtained if one follows the leads of the patient, doing as little specific questioning as possible. The patient's way of relating to this relatively unstructured situation often indicates how well or poorly his ego is functioning. There is a great deal more to the appraisal of the patient in the initial interview, but not all the factors can be dealt with in so brief a presentation.

Another question, however, which has to be answered in the initial interview or interviews is: Is this patient treatable by me, or not? This is partly determined by the state of equilibrium or lack of equilibrium, and also by the diagnostic appraisal. However, the answer is complicated by the fact that one must consider what method of treatment is available to this patient. Even though the case may be one of chronic neurosis and very difficult to treat, if the patient is unable for one reason or another to go to a psychiatrist, it may become necessary for the general physician to take over the treatment. Here, too, not only the diagnosis but the patient's motivations, the patient's resources, the availability of psychiatric help, all will play a determining role in whether or not the patient should be referred to a

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psychiatrist or treated by the physician who confronts him first.

Another matter for consideration with regard to the form and content of the initial interviews is the importance of giving the patient enough time. Effective psychotherapy takes time. Not that it is necessary to give a patient a full hour at each interview, but establishing rapport and a working relationship cannot be done with any appearance of haste. In this regard, it is imperative that the physician not be interrupted by telephone calls or questions from office personnel during an interview with a patient. An important factor in dealing with a psychiatric patient is the recognition that the more emotional discharge he gets in telling his story, the more he will feel relieved. Since it is the amount of emotion he is able to discharge in the telling that has therapeutic effect, if a patient is reciting his woes in a monotonous long-drawn manner, it may be wise to gently point this out to him in an attempt to encourage him to reveal his true underlying emotions. Often this is not an easy job, and it may be impossible. Nevertheless, if the therapist asks about the lack of emotion, the patient's response to this stimulus may make it possible for him to have some emotional catharsis in the interview.

The Physician's Demeanor

A physician must give thought to his manner of paying attention and to his own emotional responses to the patient. His face ought to reflect, at least in quality, the physician's sympathy and empathy with the sufferings of the patient. One ought to permit one's face to have the ordinary human reactions of an interested, involved and yet objective observer. The deadpan is completely out of place in any form of psychotherapy. A physician ought not treat unless he has a sense of security in the treatment. A frightened physician is a poor therapist, particularly in psychiatric problems. If the physician feels the patient is too sick for him to handle, or is too disturbing for other reasons, he ought to refer the patient elsewhere. I do not believe that a physician who is himself insecure can effectively treat emotionally disturbed patients.

The Anxious Patient

It is the therapist's task to provide the patient with an atmosphere of acceptance, empathy and security. An anxious patient needs time and encouragement to express his anxieties. The more thoroughly he describes his fears in the greatest detail and with all the appropriate emotion, the more relieved he will feel, particularly if the therapist's attitude is understanding and unafraid. It is crucial that the therapist give him undivided attention and respect the nature of his troubles. One must remember that quick reassurances given before a careful study of the patient are usually worthless—in fact damaging. In order for reassurance to be lastingly effective, it must be given only after a careful hearing and serious study of the problem, as an indication that all the possibilities are weighed.

The more realistic and simple the reassurance, the more effective it will be. Reassurance which is overdone is empty and may produce anxiety. Sometimes it is necessary to withhold giving reassurance until one has gathered sufficient material. The patient may temporarily feel anxiety but later, when reassurance at last is given, it will be much more effective.

It is very important never to reassure a patient falsely. If the therapist does not feel the situation is encouraging, it is better to say nothing than to give false reassurance. Psychiatric patients are unusually keen and sensitive in picking up the physician's anxiety. It is much better for the physician to say that he is not sure about the situation than to reassure when he has doubt and misgivings. It is better in such circumstances for the therapist to tell a patient that he does not completely understand the nature of the patient's problem and will need more time.

The Depressed Patient

A depressed patient does not respond well to a happy-go-lucky, cheerful attitude on the part of the physician. It is important to realize that a depressed person is full of internalized hostility which he is unable to properly discharge. By and large, depressed people hate themselves. If the physician is cheerful and gentle with a depressed patient, the patient may think "What a wonderful doctor!"—and hate himself the more. Depressed patients need, first of all, someone who appears to be stronger than they are. They must feel quite certain they cannot destroy the therapist with their hostility and misery.

They also need someone who they believe can understand the nature of their problem. It is very helpful to talk to depressed patients in a tone of voice which resembles some of the internal voices that are going on within them. I have found it very useful to talk with severely depressed patients in a somewhat gruff tone of voice. I think they hear this tone and will pay attention to it, for it is the way they have been talking to themselves. It is, however, important that the patient realize that the physician is not angry with him, but angry with the way he mistreats himself.

It is important to remember that at certain times depression is a normal reaction. Patients who have recently lost a beloved wife or a member of the family will often go through a period of grief and mourning. This may last days, weeks and even months and is not necessarily pathological; in fact it is to be encouraged. Only healthy people can really cry and mourn the loss of someone they love; sick people can't cry. It is only when the depression goes on beyond a few months and into years, and there is no crying, that the depression can be considered pathological. It is important to realize that life is often full of miserable occurrences. Psychotherapy does not always have the aim to make life beautiful but can sometimes only try to make life more bearable. There are lots of real miseries that psychotherapy cannot cure.

Elderly Patients

One of the basic necessities in dealing with an elderly patient is for the physician to be able to get the patient to talk about his fear of death. It is important for patients to realize that everyone who thinks about death fears it and that it is a perfectly natural fear. Nevertheless, it is also important to realize that the conception of death is often confused in people's minds with lots of other fearful and frightening experiences. With many persons the fear of death is associated with old ideas about bodily mutilation or childhood ideas of purgatory and punishment. It is very valuable to discuss with patients their fear of death and to help deconfuse them about it. They will often project onto the conception of death and condense it with lots of childhood fears, the fear of unconsciousness, the fear of God's punishment and the like.

Many older people, well in their sixties, respond quite well to psychotherapy. The notion that a man of sixty is rigid and untreatable is not true. I have found many patients in their sixties much more flexible, changeable and influenceable than some persons in their twenties and thirties. It is also important to realize that people at this age need to be active, to participate in things which concern them and are important to them. I think it is nonsense to give them all kinds of pseudo-activities—like birdwatching, say, if they are not interested in birds. A 65-year-old man who has always been active in community affairs or is interested in literature ought to be encouraged to actively continue his work. Older people should do what really interests them, even if it is hard work. Enforced taking-it-easy and enforced retirement is extremely dangerous for the older patient. Participating in something useful and gainful and constructive means being a member of the world, and that means living. Many older people have been forced into part-time living by well-meaning relatives and friends.

Marital Advice

Another area of great importance for the psychiatrically oriented general physician has to do with the giving of marital advice. In this delicate field it is very easy to make mistakes by going to extremes in any of several directions. It is necessary to realize that the marital partners who are coming to the physician are usually anxious, embarrassed and frightened. It is the physician's task to put them at their ease; but it is important not to do so by being either sexy in approach, or puritanical. There is a proper dignity and familiarity in dealing with such problems which must be conveyed to these patients. One reassures them and puts them at their ease by talking to them openly and yet with a sense of delicacy.

In talking about sexual matters, it is important not only to educate the patients in pertinent physiology and anatomy but also as to the emotional aspects of the sexual relationship. Here, too, one has to be careful neither to glorify sex and make it the paramount aspect of life or to devaluate it as merely another physiological reflex which needs to be executed at periodic intervals.

The patient also ought to be made aware of fluctuations, normal fluctuations, in sexuality and in responsiveness. They ought to know it takes time to find one's way with oneself sexually as well as with one's partner's sexuality. One ought to give these people a rather broad conception of sexual practices without either encouraging them to experiment beyond their psychological ability or admonishing them to adhere strictly to certain conventional concepts. Again openness and delicacy as well as education are necessary. Above all, they must be made to understand that sexuality is for emotional and sensual pleasure and not a duty, a sin or a reflex. Young people need time to become familiar with their own bodies and sexual responses and with the bodies and sexual responses of their partners.

Frigidity and Impotence

In dealing with problems of frigidity and impotence, it is necessary to differentiate between cases of long standing, in which the problem is deep seated and very resistant, and cases which may have a simpler structure. By and large, I would not do extensive probing in such cases. I would permit the patient to set the pace and see how much he is able to communicate and how much understanding he has for his particular problem. When there is great resistance to talk, I would not push. I feel those are the problems that probably require special handling. I would make sure that I do not give the impression that the existence of impotence or frigidity means a marriage is doomed. I would also make sure that the patient know that, by and large, impotence and frigidity are curable disorders. The therapist's line of questioning ought to go in the direction of finding out if some recent event started the difficulty (if so, perhaps simple catharsis about the recent event might uncover the unconscious need to be frigid or impotent) or if perhaps lack of education and timidity are at the bottom of the trouble and might be dealt with by education and reassurance. One should be very careful, however, about complicating matters by proceeding too deeply and too quickly with these patients. In general, if the problem has existed for a long time and there is great reluctance to talk about it, referral to a psychiatrist would seem the best course. The way to do this, however, is not to make it a matter of life and death, for that will frighten the patient. In cases of frigidity and impotence which are of only recent development and the patient is not reluctant to talk, a general physician might well encourage him to talk and see whether this talk and the education the physician can give is helpful. Patients who do not respond in a few months should be prepared and educated for seeking psychiatric consultation.

Obesity

In my opinion obesity has become a national problem. In America we tend to overeat, overdrink, oversmoke and overtalk. It seems as though we are becoming a rather orally fixated nation. There are different kinds of emotional obesity problems and we ought to distinguish between benign obesity and the more severe forms of emotional obesity. The severe forms are certainly not in the province of general physicians and are extremely difficult to treat even for the most skillful specialists. The severe forms are those in which overeating has become an addiction and alternates with bouts of deep depression and has led to severe impairments in major fields of endeavor.

The more benign obesity problems can be dealt with by general physicians. Many persons constantly overeat, as a form of consolation for some recently experienced disappointment or frustration. It may be noted that some persons will overeat after an unhappy love affair or blow to the self-esteem. Getting them to recognize this connection can be helpful. It is wise of course to make sure that obesity does not stem from organic factors before delving into the emotional elements. As to obesity in a patient who consults a physician for something else, there is little that can be done about the excess of weight unless he becomes interested in the problem and wants to do something about it.

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Psychosomatic Medicine

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I SHOULD LIKE to begin by first highlighting some of the theoretical considerations relevant to the dynamics of the psychosomatic process, then to follow this with an excursion into some typical clinical examples, and finally a consideration of certain practical applications.

The human impulse, seeking discharge, may find one of three alternate paths: It can be discharged into action, that is, the person *does* something; or into affects—the discharge is into the *interior* of the organism and the person *feels* something; or into thought, in which the impulse is partially bound and partially discharged, but at any rate dealt with in a certain way, and the person *thinks* something. These are in the main the derivative end-products of instincts with which we deal in our daily efforts to assess a human being, his thoughts, his actions and his feelings.

In the situation of psychic conflict, such as prevails at the core of any neurosis, there are specific defenses against the impulses, with attendant inhibitions of discharge, from which various distortions and resultant end-products can obtain. These can be either directed externally, resulting in abnormal external actions of various degrees and types, which constitute the *behavior* problems discussed elsewhere in this symposium, or the effects can be internal. Of the latter, there may eventuate, from this internalization, some kind of abnormal mental phenomenon, such as a compulsion or an obsession, or a pathological affect or mood such as a depression; or what might result is a pathological end-product in the somatic sphere. It is this last eventuality which comprises our focus of interest—the psychosomatic sequelae of neurotic conflict.

It is well to point out that the term *psychosomatic* implies a duality which in fact does not exist, for there is in reality no small and discreet group of somatic diseases psychically induced, but rather a spectrum of diseases, with both organic and psychological factors operative in all, but more of one or the other at each end of this spectrum. Thus, in one of the definitive papers written on this subject in 1945, Otto Fenichel uses the word *so-called* (psychosomatic phenomena) in the title, pointing to and correcting this inconsistency and loose usage. Although there is this spectrum, with organicity and psychogenicity at each end, one is hard put to think

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of a "pure" example of either. As a possible contender for a purely organic lesion one might think, for example, of tumors, and yet much recent work and many individual clinical experiences lead one to withhold final judgment in this regard. Actually all disease is a combination, to varying degrees, of the psychologic and the somatic. The most "organic" disease has not only its psychic reverberations, that is, somatopsychic *effects,* but also is enhanced and facilitated by a preexisting psychological soil, while the most predominantly psychogenic disturbance has its somatic accompaniments. Selye, for example, in describing the nonspecific and common background of all diseases, gives due place to the role of psychological stress in the series of all stressor agents.

The psyche affects the soma, which in turn affects the psyche, completing the circle. Emotions cause obesity, which in turn disturbs the emotions. Even in the most physical "accident," with its resultant fractures or lacerations, proper consideration must today be given to the role of "accident-proneness" and the preexisting emotional turmoil which serves as a precursor. In a similar vein, resistance to infection, both of the specific or nonspecific varieties, varies with and is influenced by the emotional state. Thus, a sore throat can take hold in a "nervous" or run down condition, and tuberculosis may finally take pathological root in a masochistic, self-destructive person who has found no other way out of deep-seated emotional conflict.

As psychological *effects* or sequelae of organic disease, one can think for example, as a representative of this, of the reaction to a cut, when, in predisposed persons, acute anxiety, panic, actual fainting or even shock may occur. These psychologic effects range from the sequelae of such an acute instance to the most chronic of organic illnesses, where again the influences on the total being and personality of the sick person must be taken into account. Much attention, for example, has recently been paid to the handling of the dying patient, with a growing realization that it is not only the physical state of the fatal and significant organic lesion which must be treated, but the effects upon and the attitudes of its host, the patient.

Similarly, and to complete the circle, every "psychogenic" affliction has its somatic accompaniments. Thus, for example, the most "pure" psychogenic hysterical conversion has both the factors of somatic compliance as well as of somatic accompaniments. The psychic conversion is to a somatic *locus minoris resistantiae;* and an arm hysterically paralyzed is nevertheless a member in which there are organic changes and findings in muscle tonus, in the general vasomotor state, in the autonomic innervation, in sensations and perhaps in skin temperature. Thus all disease is both psychic and somatic, just as Selye has shown in an analogous and parallel way that all disease has both a nonspecific background and a specific outward form.

In pursuing further the technical delineation of the psychosomatic process, it is necessary for the diagnostician to make a differentiation between two major groups which are seen in practice. In one of these the somatic involvement confronting the practitioner is basically an hysterical process, while only in the other is it what we call more technically psychosomatic illness or an organ neurosis. The finer meanings and implications of this differentiation are of more concern to the psychiatric specialist, but a few of the major determinants will be appropriate in this discussion.

In the hysterically afflicted somatic area, the affected part is speaking in body language, symbolically, expressing a repressed idea, thought or wish. While an organic function is utilized, no organic "lesion" is involved or at most this is very secondary, incidental and not a primary part of the picture. Thus, for example, an hysterically vomiting woman may essentially be expressing the repressed wish, "I am pregnant." While there may be spasm or accompanying changes of tonus, these are incidental, and there is no such process as ulcer, but it is rather the symptom, the vomiting, which is the main thing. An hysterical convulsion with no localized disease of the brain may express an orgasm, and an hysterical blindness may give voice to the thought "I do not wish to see what is forbidden." An hysterical abasia may be the equivalent of an agoraphobia and may express the prohibition to go into a forbidden or sexually dangerous place. Pseudocyesis is another obvious example which would belong in this group. Although the patients in such cases present somatic fronts, they are hysterical rather than technically psychosomatic, and should thus be known by whoever is called upon to evaluate them. The treatment here is directed wholly to the psychic state, with the presenting somatic involvement generally requiring no local ministration. We do not treat the eye of the hysterically blind, but the mind for the conflict which lies behind it. The mechanism in symptom formation by which the leap occurs from the psychic to the physical remains obscure.

In contrast, what we technically and more specifically term psychosomatic illness, or "organ neurosis" as it is known to the psychiatric or psychoanalytic specialist, has quite another dynamic background. The somatic change here is a more real and localized one, is not symbolic, does not speak in body language, and has no specific psychological meaning of its own, but is rather a physical result of a chronic and long standing disorder in function. Thus, for example, a chronically rasping voice from high pitched anger and from a literally snorting attitude can eventually result in chronic hoarseness or sore throat, as can a nervous or imitative cough after some time. The true psychosomatic disease is brought about by such mechanisms. In this way, for example, hypertension can ultimately result from chronically repressed anger, or an ulcerated duodenum can eventuate as a result of long-standing hypersecretion and chronic gastric contractions expressing the desire to take in love and nourishment. Neither the blood vessels nor the gastric mucosa speak symbolically in these instances, but are rather the physical evidences of breakdown as a result of the long-standing frustration and undischarged or unfulfilled tensions. In this group, while the psychic background must certainly come in for its share of basic treatment, obviously the localized somatic area must similarly be attended, oftentimes in an emergency way. The latter, for example, obtains in the case of a hemorrhage from an ulcer or in the sometimes serious acute state produced during the course of ulcerative colitis.

This second category, that of the truly somatic sequelae of psychological stress, may be seen upon closer observation to consist microscopically of a number of intermediate steps. Thus certain of the presenting symptoms may be affect-equivalents, or the physical manifestations or accompaniments of otherwise unexpressed affects. Cardiac neurosis, for example, with its palpitation and arrhythmia and changes in respiratory rate and rhythm may constitute the vascular accompaniments of anxiety. The latter may not be consciously felt or recognized, but the cardiorespiratory signs may be the only things which point to it. In such a condition of dammed-up or strangulated affects, whether of latent anxiety, rage or other emotion, there is tension, irritability and an unconscious readiness for affects, which can be set off with minimal stimulation.

It is obvious how a neurotic tension state of this sort would bombard its effects on the endocrinologic systems, both qualitatively and quantitatively, as well as on the sympathetic and parasympathetic nervous systems with their consequent physical sequelae. In the final stages there ultimately come to pass the physical results of such unconscious attitudes or unconscious behavior patterns, producing their chronic and visible somatic effects. It is in such a way, for example, that a habit of clearing the throat, or of sleeping with the mouth open, can come to bring about pharyngitis. Unconscious motivation is sometimes intuitively perceived. An irate wife recently berated her husband with, "Who are you snoring at; me?"

Consider, as another illustrative example, the state and characteristics of the muscle tonus, as this may reflect and reveal unconscious determinants. A person who characteristically represses and blocks discharge may show a rigid muscular stance and posture. In one such patient, a process was observed in statu nascendi whereby a long and characteristic period of rigid and tense posture, with muscular tightness, clenching of the fists, stiffening of the back and entire trunk, and frequent contracting and flexing of the muscles, all expressive of severe aggression and defensive control, was finally followed by the onset of an ascending arthritis of the spine which was then diagnosed by an orthopedist as Marie-Strümpell syndrome. Another reaction may be a hypotonia in a person who is spineless and submissive; or, as still another variant, alternating hypertonia and hypotonia may result in the picture of a psychogenic dystonia, or I believe actually of a scoliosis. Or muscular fatigue may be the equivalent of depression.

The foregoing are some of the dynamic mechanisms and transitional phases in the genesis and development of the psychosomatic process. Most individual syndromes, however, are frequently combinations of several factors, and are multidetermined, the end results of more than one dynamic, etiologic stream. Thus, as an example, a case of ulcerative colitis may combine multiple psychic determinants in one. The resultant end lesions may on the one hand be the culmination of long-standing eliminative or retentive pressures. At the same time, however, the symptoms may symbolically express repressed impulses toward the outside world, impulses of aggression, or impulses to destroy, or to depreciate, or for that matter the opposite, in that the same diarrhea may express generosity, or the impulse to give, whether love or material things. Simultaneously, the same symptom may constitute an equivalent of the affect of anxiety. There is in addition, of course, the necessary etiologic factor, not to be ignored, of the invading organism, which also have to be directly treated, whether by antibiotics or other means.

To turn further now to a brief consideration of some clinical examples of psychosomatic involvement, these can be seen to run through the entire gamut of the organ systems of the body, so that only a few representative specific syndromes can be selected here for mention as typical and demonstrative. Although some systems such as the gastrointestinal or cardiovascular are more frequently vulnerable and more characteristically affected as the locus of such processes, no system is excluded from such influences. Thus, for example, the musculoskeletal system may react with muscular rigidities, spasms, and then perhaps with myositis or with various types of arthritides such as in an example cited earlier. Migraine, with its major emotional determinants, is an example of a specific type of effect on the central nervous system, as are the frequent exacerbations of many of the neurologic syndromes, such as Parkinsonism, or many of the degenerative diseases, following acute or chronic emotional stress. The genitourinary tract may present to the specialist in this field urethritis or cystitis following a long habit of psychogenically induced urinary retention. And the gynecologist may deal with pruritus vulvae or pruritus ani as a masturbatory equivalent, or may see vaginitis or cervicitis as a result of various types of masturbatory practices. And in addition to these specific and localized involvements, there is the wide and kaleidoscopic reaction type embraced in the *allergic* diseases. The emotional component is a large one among the etiologic factors in these conditions, and it is one to be looked for and reckoned with whether the ultimate expression of disease is allergic rhinitis, giant urticaria or asthma.

As an example of the organ systems characteristically involved in response to emotional stress, we may consider for a moment the cardiovascular system. The heart is notoriously a sensitive barometer of the emotional state. The organ of love, it beats fast in rage or fear, and is heavy if one is sad. Affective states produce circulatory and vasomotor responses in the forefront, through sympaticotonic or vagotonic pathways. Blushing, pallor, dizzy spells, fainting spells, anginal symptoms, or even arrythmia are among the many manifestations which may result. A physician patient whose symptom consisted in attacks of paroxysmal tachycardia and one or two episodes of actual auricular fibrillation, received analytic therapy for these and other anxiety symptoms for a period of several years, during the course of which it was noted there was considerable psychic background for these cardiac occurrences and with the resolution of the psychic difficulties the attacks were convincingly benefited. Similarly in a case of coronary thrombosis, one can hardly any longer be satisfied with explanations solely about cholesterol, body weight and other dietary factors to the exclusion of chronic background tensions, anxiety, rage and other emotional conflicts.

The question of specificity in relation to psychosomatic disease is a perplexing one. I think that we have particularly wished to find a neat classification and correlation of certain personality types with certain disease syndromes. However, surveying our general experiences thus far, in spite of the specificity described by Alexander and others and the personality profiles offered by Flanders Dunbar, I would lean toward the opinion that no convincing correlations have as yet been established, much as we would like such to be the case. Although we may select anger and rage to be dominant emotions in the constriction and narrowing of the blood vessels in hypertension, this emotion can exist diffusely in all other psychosomatic lesions as well, such as in causing the skin to be red with rage. The latter can thus express not only exhibitionism but anger as well.

While repressed hostility may play a major role in the background of ulcerative colitis and other lower intestinal or anal conditions, generosity, as noted previously, can be equally expressed by this system. Self-destructiveness and masochism can exist behind the syndrome of tuberculosis or of a coronary occlusion, but I believe it can similarly exist in any psychosomatic disease pattern, particularly of the chronic or profound variety. Similarly, anxiety either in overt or disguised form appears throughout every syndrome. While it is appealing to maintain a concept of an "ulcer type," ulcers occur in other than this classical ulcer type, and we find the hungry-for-love individual developing any one of a number of other psychosomatic manifestations without gastric or duodenal ulcer. Patently many other factors are involved, not the least of which is constitutional predisposition.

At the opposite end of the spectrum, the somatopsychic effects, or what are also called the pathoneuroses, are the neurotic sequelae of organic disease, which complete the circle and fill in the total picture of the sick person. In persons who are so predisposed, the somatic affliction may mean to them, psychically, to be abandoned or deserted or castrated, or it may pose a masochistic temptation which the patient can then seize upon and make use of. Sickness itself reduces the patient to a narcissistic state and the sick organ or the sick body as a whole assumes to itself an undue investment of interest, libido or psychic energy. Sickness may in this way come to produce problems of regression, or of infantilism or hypochondriasis or dependence. Some persons thus inclined will rush to these conditions more than others, and it is the resulting total picture which will obviously confront the healing physician and have to be considered.

These conditions might come on acutely or they might be prominent ingredients of a syndrome coming on imperceptibly with old age and senility. In either case, the total reactions of the sick patient or the older person have to be understood and actively combatted and treated by the alert physician. Secondary gain of the illness must similarly be evaluated and dealt with. There are curious individual reactions to specific afflictions which are indicative of the mental state of the host. Thus recently a patient who underwent a ventriculogram for a potential brain tumor consciously denied any anxiety about what the findings of this study might reveal, but instead was exceedingly upset at the necessity for a haircut which removed her carefully groomed long red hair. It is obvious how denial and displacement and other mental mechanisms were operative here.

In an opposite way, it is possible for the onset of an organic disease to alleviate, at least temporarily, an otherwise disturbed mental state, resulting in what is called a "patho-cure." The physical disease may relieve guilt, or provide a needed and wanted punishment and in this way reduce a tension state to a position of equilibrium. Thus it was a common observation in Army hospitals during the last war that the patients in orthopedic wards with their visible fractures and their impressive appliances and apparatuses were among the happiest and most contented of the hospital patient population. In contrast those with more subtle and indefinable infectious, metabolic or other internal diseases still suffered from numerous anxiety and other neurotic symptoms.

A patient, for example, who had been in psychotherapy for a number of months for many mixed neurotic symptoms, alcoholism, depression, and self-destructive tendencies, was involved in an automobile accident (her husband was driving) in which she suffered severe injuries and numerous small fractures. She proved to be a most cooperative, docile, undemanding patient in the hospital, the nurses remarking about her philosophical attitude. The family congratulated themselves and the therapist (erroneously) on how far she had come in her psychiatric treatment. The fact was that the externally induced pain and suffering had temporarily made the neurotic process unnecessary and had allowed it to recede. With improvement in her physical status, the emotional symptoms returned as before and her psychiatric therapy was resumed. Similarly, the patient mentioned above with the ventriculogram and suspected brain tumor improved considerably but only temporarily in her long-standing chronic neurotic state while these investigations were in progress. As it became clear that the studies were negative, the patient's anxieties and acting-out tendencies returned.

Turning now to the treatment for psychosomatic illness, this is seen to depend on many factors and on the global picture. The psychiatric aspects of the treatment run the gamut from the briefest and most superficial of psychotherapeutic approaches to those which require the most intricate and specialized psychiatric care. Similarly, the prognosis varies through the entire spectrum, from the most transient and benign conditions to the most stubborn and disabling ones. More, even, than the presenting surface symptomatology, the general underlying character structure of the patient must be assessed and evaluated as well as the strength or weakness of his ego structure and capacities. The syndrome in question may have a temporary and transient meaning, easy to come and quick to go, or may represent even a substitute for a psychosis. Incidentally, in these last mentioned instances it is of obvious danger to radically and too quickly extirpate by dramatic means the existing somatic illness. In general, the more acute the onset and the more prominent the external factors, the better the prognosis.

Within the available armamentarium of the general physician in these cases are many methods. He may be able in favorable cases to supply the patient with a degree of insight and understanding into certain hitherto obscure mechanisms or tendencies which can help the patient to more adequately handle difficult situations. Or his therapy may rely upon his wisdom and authority, or may be effected through external measures or environmental manipulations. He may supply advice, or reassurance or may provide educational measures. In other cases various tranquilizers or ataraxic drugs may be of partial or temporary help. Incidentally, symptomatic improvement itself is by no means always proportional to the length or depth of psychiatric treatment, and sometimes the most dramatic results can occur with a very limited influence where certain dynamic factors are favorable.

One of the most generalized and severe cases of neurodermatitis I have ever seen, and which had disabled the patient for many months, melted away under the impact of two or three productive psychotherapeutic interviews. A pronounced and patent underlying neurosis was revealed, to which the patient reacted with an unambivalent refusal to go further. The psychosomatic process cleared up dramatically so that she "no longer had any need." She subsequently referred a number of other patients for psychotherapy very enthusiastically, but felt no urge for further therapy for herself.

As a general statement characterizing the psychotherapy which should be administered by physicians in general practice, one could say that this should remain above the level of defenses rather than resort to deep probing below this level. Thus, for example, it is safe and may frequently be of considerable help to instruct a patient that his physical state "is due to his emotions" or to the fact that he is nervous or upset. Such an explanation is likely to be not only new and helpful but certainly acceptable to the patient, rather than adding "upset because of death wishes, or homosexual feelings," which may not only be unacceptable but wrong, or, even if right, when applied at the wrong time and in the wrong way may very well be devastating. It is important in these therapeutic efforts and relationships not to add to the already precarious state the factor of iatrogenic superimposition. Nor should hypochondriasis be facilitated by the physician who lightly and evasively blames this organ or that for vague and indefinable symptoms, particularly in a hypochondriacal patient who will seize upon these casual words and make the most of them. While on the one hand, it may not be desirable to uncover or to stir up, and more advisable to strengthen defenses, it is yet obligatory that the physician himself know what has happened and that he not concur with the patient in some faulty rationalization which would lead to what I have called elsewhere "a pact of mutual misunderstanding" even though the latter may temporarily and unreliably patch up for a short time the presenting symptom.

It is thus well for a general physician not to attempt specific or too deep insight therapy. I have known rather drastic results produced by a physician in the army who, upon learning some of the deeper mental complexes of man, invaded a psychiatric ward and indiscriminately informed a number of regressed patients, "You are nothing but a homosexual," or "You're just in love with your mother." This interpreter found himself subjected to rather homicidal denials. Similarly a patient's "stiff neck" might be attributed on first meeting and in early interviews to her general rigidity, or to her stiffness and tightness and fear, but not to the fact that "You are surreptitiously having an erection" which would better be left to the realm of the psychoanalyst, after he has reached such a point in uncovering the patient's deepest wishes and conflicts. Major and deep interpretation is no more within the realm of such treatment attempts than is major surgical operation in the office, or without anesthesia. Parlor psychoanalysis is no more justifiable than is wielding a scalpel in the living room. Among its complications, besides causing external havoc, can be the production of psychosis or other such untoward effects.

There are cases, of course, at the other end of the spectrum, in which the most specialized and definitive of psychotherapeutic approaches are needed and in which therefore only a long and persistent effort directed toward the most basic and primitive etiologic mechanisms can offer any promise of basic change. An example of such a clinical instance, which it might be of interest to mention and describe, was a long therapeutic experience I had recently with a young man with a history of almost life-long asthma. During the course of this treatment, many underlying and contributing psychologic mechanisms emerged, some that brought on the physical signs or symptoms, and some that represented the psychic meaning to the patient of already-present physical manifestations. All these factors were interrelated in a web or net-like fashion. Not only did the wheeze represent a crying or a passive longing for the mother, but it was also at the same time an expression and equivalent of severe anxiety. Incidentally, the wheeze was also of itself, especially when severe, a *cause* of anxiety and even fear of death. The desperate sucking in of air meant, at the deepest levels, to suck in his mother's milk, while his barrel chest cavity represented a container within which he retained milk and love and narcissistic supplies. The frequent flow of mucus represented tears and the narrowed bronchial passages expressed and paralleled his totally inadequate general line of communication to objects and people in the outside world. From dreams and other material it emerged that fluid or mucus or any extruded liquid was equated with blood, which expressed violent, murderous, revengeful thoughts against those at whose hands he had felt rejected and forlorn. His sick and tender chest cavity also represented an opening into which he would retreat when hurt and in which he periodically lived, when sick, for long periods. On other occasions, many of the weird respiratory sounds which were periodically emitted were seen, from dreams and other associations, to be the equivalent of jeering anal wind which he was directing toward his persecutors and neglectors.

Gradually, during the course of treatment, and paralleling a considerable improvement in his physical state, his tears came to flow more outwardly, from his eyes instead of from his chest. Through and concomitantly with a greatly improved communication with the outside world, a widening of the passageway for air was accomplished. Instead of internal somatic episodes there were first externally directed behavioral attacks, and finally more realistic outside action in the general life situation of the patient, in his relationships with his peers, with his loved ones and in his work. Of further special interest was the fact that simultaneously with the psychoanalytic treatment of his all-pervasive, generalized emotional disturbance there was, especially in the first part of treatment, the need for periodic topical and localized treatment of the affected pulmonary processes both by an allergist and an internist, at times with necessary emergency measures.

It is probable that many of the more transient asthmatic episodes observed quite frequently in medical practice come about in a way similar to that in the foregoing case but by mechanisms less profound, and without the permanent crystallization to one deeply involved system. One can apply similar studies and methods of thought perhaps to allergic disease in general, whichever system they may involve.

It is likely that material like the foregoing is quite unfamiliar to physicians who do not customarily deal with such unconscious mental processes, and no doubt is difficult to absorb with any degree of conviction without further documentation. Nevertheless, although documentation cannot be given here to any appropriate degree, this brief extract is offered in the hope that it does give an idea of the kind of deep emotional conflicts which may be expressed and of the complex interrelationships which exist between psychic and somatic processes. It is to be reiterated that treatment at this level is limited only to certain selected and advanced cases and is to be administered with the utmost care only by the qualified psychiatric or psychoanalytic specialist.

In closing, I would like to say as a general statement that while a host of emergency somatic therapies are in order in the case of a sudden perforated ulcer, or when a hemorrhage occurs in a patient with ulcerative colitis, I think we would now consider the treatment regimen incomplete without the proper institution of psychotherapy in the total rehabilitation program. Similarly, following the occurrence of coronary thrombosis, any treatment program involving diet, anticoagulants and weight reduction would be dangerously incomplete without a complete evaluation of the patient's total life situation and an attempt at reorganization which would take into account not only the multitude of physical factors which exist but also every aspect of the patient's psychic life. In many or even most cases, it is the general physician who should provide and guide this total and overall treatment program. In certain other cases, however, where the psychological contribution is more intricate, subtle or complex, or more dominant in the concatenation of etiologic factors, the treatment of this aspect of the total illness would be well given over to a psychiatric specialist.

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A Test for Evaluating Pedal Gangrenous Lesions

Observation of Elevation Reactive Hyperemia as a Gauge of Blood Supply

RUTHERFORD S. GILFILLAN, *M.D.*, San Francisco

• Estimating the development of collateral circulation in peripheral vascular diseases is simplified by the use of an easy test—which can be done in an office—in which reactive hyperemia is observed in an extremity as it is gradually lowered after a period of elevation.

The lower limits of filling pressures necessary to allow spontaneous healing of necrotic lesions under the conditions described seem to be in the range 35 cm. above the heart. Similarly the lower limit for the successful performance of amputations at the level of the forefoot or toes seems to be about 45 cm.

As a result of over a thousand observations in a period of over five years, it is believed that the test provides in a few minutes a visual and reproducible picture of the filling pressures in the distal portions of the extremity which is useful in the determination of prognosis and the selection of treatment of gangrenous lesions of the foot.

THE COLOR OF THE SKIN may afford important diagnostic information in many conditions, and the factors underlying the tints and depth of color in varying circumstances are of considerable interest, not only from a purely physiological point of view but also from a clinical standpoint. The color of the skin is dependent upon the most superficial vessels—the capillary loops—and the vessels into which they drain, the subpapillary venous plexus. Thus, the normal color of the skin is produced by blood which is in or has already passed through capillaries, the arteriolo-venular bridges or the neuromyoarterial glomus. Since color alterations are the product of blood flow, direct information can be obtained regarding the circulatory status of the skin by knowledge of color changes under varying test conditions. This knowledge has been applied to the evaluation and treatment of necrotic lesions of the foot.

The distribution of blood is carried out by the great vessels and their branches, but the effective physiologic changes pertaining to the metabolism of the cell occur in the capillary bed. It is at this point that the actual interchange of nutrient and waste substances takes place, based on the relation of the colloid osmotic pressure to the capillary pressure. Death of tissue due to vascular insufficiency is incipient or takes place only in relation to the capillary. Thus it is desirable to know the adequacy of this capillary pressure in the various conditions of health and disease.

Ability to measure or evaluate capillary or small vessel pressure should give information on which to base a choice between conservative and radical procedures in the treatment of various types of necrotic lesions of the foot, regardless of the cause. Various indirect methods have been used to estimate the capillary blood pressure and the resultant computations have ranged from approximately 10 to 70 mm. of mercury in patients with essentially normal systemic pressure.[2,3,8,9] The results have varied widely and each method has had imperfections which have led to error.

Landis, in carrying out the measurement of capillary blood pressures in the hand by direct cannulation, called attention to the changes which occurred on raising and lowering the extremity.[8] He noted that elevation of the hand above the heart decreased the pressure and that lowering it increased the pressure. It has also been noted that, with the patient supine, when the lower extremity is elevated into the "L" position the blood pressure in the arteries of the thigh and leg is lower than when the leg is in the horizontal position, owing to the hydrostatic effect. The nearer the point at which measurement is made is to the foot (when the leg is elevated) the lower will be the observed pressure (Figure 1). The difference between the pressures in the brachial artery and the arteries of the thigh and leg in these different positions is approximately equal to the height of a blood column which would reach from one arterial level to the other.[7,13] There does not appear to be any major nervous mechanism in the extremity governing the caliber of the arterioles to antagonize gravity such as exists in the splanchnic area to protect the head and upper portion of the body from sudden pressure changes on positional alteration.

The appearance of color in the skin at various heights above the heart has been used as an index of capillary pressure or, more exactly, as an index of the level above the heart at which the capillary

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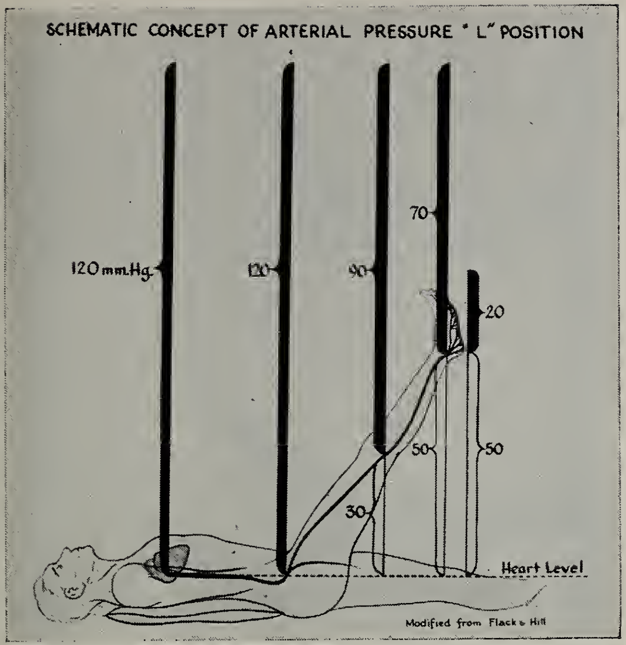
SCHEMATIC CONCEPT OF ARTERIAL PRESSURE "L" POSITION
120 mm.Hg.
120
90
70
20
50
50
30
Heart Level
Modified from Flack & Hill

Figure 1.—Schematic concept of pressure in "L" position.

and subpapillary venous plexus have been filled. The appearance of color in the skin as reflection of blood filling the capillary or venous plexus at various heights above the heart is felt to be a reflection of the pressure in the arterial system since pressure is necessary for the elevation of fluids, in this case blood, above its source—the heart. The method to be described herein might in reality be called a quantitation of the old and well-tested "elevation pallor" maneuver.

Capillary blood pressure by micro-cannulation was found to be approximately 32 mm. of mercury in the skin of the hand when the hand is held at heart level.[8] This probably constitutes merely a pressure within a normal range, since in a normal person elevating the hands above the head is not followed by blanching of the hands. The pressure necessary on hydrostatic principles to maintain this blood in the hand held above the head would be in the range of 50 to 70 mm. of mercury or 65 to 100 cm. of blood. Inversion of the body is not followed by blanching of the feet, even in extremely tall persons. Capillary pressure thus varies widely and probably also fluctuates with changes in cardiac pressure and central pressure change in the great arteries. It is reasonable to assume that there must be a minimal pressure below which capillary pressure relations are so disturbed that failure of support of cell metabolism takes place. It is also reasonable to assume that gangrene occurs in the distal portion of the extremities with obstruction of main arterial channels due to this failure in the intraluminal capillary pressure. In clinical practice the development of local necrotic lesions of the foot as the result of circulatory failure alone is somewhat unusual. Such lesions occur more commonly when trauma (physical, chemical or thermal) is superimposed on a previously depressed circulation and, by definition, on a previously depressed capillary pressure.

It is obvious that in an attempt to quantitate capillary pressure by observation of skin color it would be desirable to eliminate the vasomotor tone as a factor, in the hope of reducing the many gradations of color. It likewise would be desirable to secure a situation in which a maximal number of capillaries are available for the filling of the subpapillary venous plexus. If the circulation to a part is arrested over a period of time and then released, the skin flushes and the volume of the part increases because the flow of blood through it is greater for a time than it was before the vessels were occluded. This so-called reactive hyperemia occurs independently of the central nervous system and has been shown to be related to the metabolic debt. Barsoum and Smirk[1] demonstrated the presence of a substance, having the biological properties of histamine, that may be the agent bringing this about. The flow of blood thus produced is as great as can be created, with the exception of that following muscular exercise.[12] Reactive hyperemia has been used to provide an adequate base-line for pressure measurements because a near maximal blood flow can be produced thereby and because of the simplicity of its application.

THE ELEVATION REACTIVE HYPEREMIA TEST

I have used a method of estimating the blood pressure in the minute vessels of the skin of the foot by a method involving elevation of the foot and observation of reactive hyperemia in the elevated position. Details of the test procedure are as follows:

With the patient in a supine position on the examining table the extremity to be studied is elevated to a standard height of 65 cm. (measured from the base of the heel to the surface of the table) and kept there for ten minutes. During this period the brachial blood pressure is noted as well as the anterioposterior diameter of the chest at the level of the fourth rib. If no blanching occurs on elevation or if cyanosis or skin pigmentation makes color determination difficult, the femoral artery is occluded by inflation of a blood pressure cuff about the thigh to above the brachial systolic level (Figure 2, A). The feet are then emptied of blood by massage until they are pallid. This pallor is maintained by inflating a pneumatic cuff, previously applied at the ankle, to a pressure greater than the systolic pressure. The cuff at the thigh is then released (Figure 2, B). The occlusion is maintained for a period of 5 to 10 minutes, the longer occlusion periods being used for cold extremities. On release of the occluding cuff,

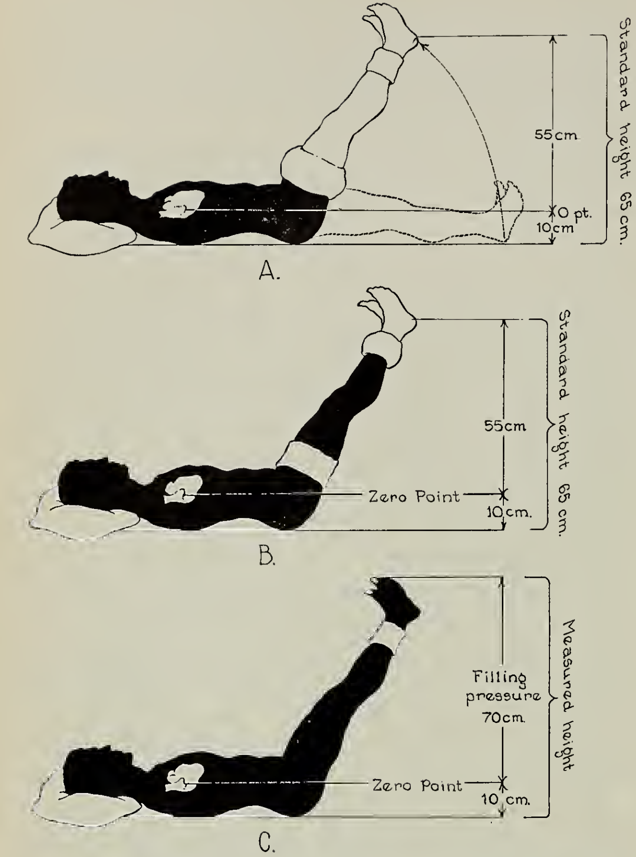
55cm
0 pt.
10cm
Standard height 65 cm.
A.
55cm
Zero Point
10cm.
Standard height 65 cm.
B.
Filling pressure 70cm.
Zero Point
10 cm.
Measured height
C.

Figure 2.—Method of performance of elevation reactive hyperemia test with tourniquet.

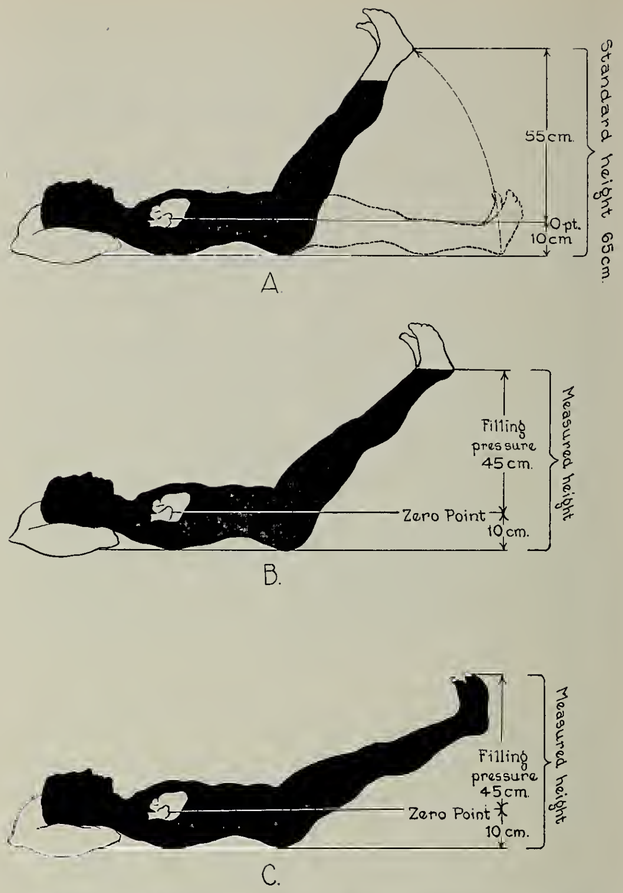
55cm.
0 pt.
10cm
Standard height 65cm.
A.
Filling pressure 45cm.
Zero Point
10cm.
Measured height
B.
Filling pressure 45cm.
Zero Point
10 cm.
Measured height
C.

Figure 3.—Method of performance of elevation reactive hyperemia test without tourniquet.

the level to which the flush rises is measured from the surface of the table (Figure 2, C).

Many of the subjects studied with this test had lesions involving the foot, particularly the plantar area, and therefore this area was used extensively for observation. The plantar area was also used because of the reactivity of the blood vessels in this area and the maximum color changes to be seen there, probably due to the enormous number of arterial channels supplying it.

If a hyperemic flush is not observed in the part under observation, that part is lowered in 10 cm. decrements at 30-second intervals until a definite zone of hyperemia or color is seen at or about the lesion or area under consideration. The hyperemic flare customarily seen with the extremity in the horizontal or dependent position may be replaced by the appearance of a light pink or "living color" since, with the foot in the elevated position, the subpapillary venous plexus, which is largely responsible for the hyperemic color of the skin, is rapidly drained.

In cases in which there is spontaneous and complete blanching on elevation, the occluding cuff is not used, the stimulus to reactive hyperemia being provided by only a 10-minute period of elevation followed by lowering in the previously described fashion (Figure 3).

The level of the right heart halfway through the chest at the 4th rib is used as a zero point or baseline. The anteroposterior diameter of the chest is measured at the level of the 4th rib with an x-ray centimeter scale. One-half of this measurement is subtracted from the measured height—that is, the height from the surface of the table to the top of the hyperemic flush (Figure 2, C and Figure 3, B and C). This measurement is considered to be approximately the pressure, in centimeters of blood above the right auricle, necessary to fill that area. This measurement, or height of color return above the right heart, has been termed the *filling pressure* or *height of penetration of cutaneous hyperemia.*

The determinations are carried out under artificial light, since this seems to enhance the red color upon which the measurement depends.

In normal controls, the entire distal portion of the extremity will fill in a maximum of 45 seconds and in most cases in less than 15 seconds. A similar filling or flushing time exists in patients with vasoconstrictive disease who have cold, pale, wet cyanotic feet.

TABLE 1.—*Fluctuations in Filling Pressure Related to Changes in Brachial Blood Pressure*

Case No.	Lesion	Blood Pressure (Brachial) in Mm. Mercury	Filling Pressure Height in Cm.	Brachial Blood Pressure Change Due To	Blood Pressure (Brachial) in Mm. Mercury	Filling Pressure Height in Cm.
1.	Occlusion, femoral artery	240/145	87+	Hypertensive heart disease and cardiac failure	160/100	35
2.	Occlusion, femoral artery	260/110	90+	Hypotensive drugs	160/60	35
3.	Arteriosclerosis of aorta and branches	160/100	75+	Coronary occlusion, cardiac failure	100/60	10
4.	Occlusion, iliac artery	180/90	85+	Arteriosclerotic heart disease, cardiac failure	110/70	30

Performance of this test is also useful for delineation of obliteration of small vessels, such as digital arteries, distal to the main arterial trunks. These small local areas of decreased blood supply can be easily mapped out during the performance of this test. Blanching of these areas and subsequent flushing following the lowering of the part indicates that the area has a decreased or failing blood supply as compared with the rest of the foot.

USE OF TEST IN PROGNOSIS OF GANGRENOUS LESIONS

In a series of more than a thousand observations, 150 were carried out on patients who had necrotic or gangrenous lesions of the foot and leg. There were 41 cases of amputation at the level of the toes or the forefoot in which studies were carried out preoperatively. The patients were studied carefully by the usual clinical methods, including oscillometry, arteriography, reflex vasodilatation tests, sympathetic nerve block, peripheral nerve block and biopsy, as well as by general clinical and laboratory evaluations. A detailed study of 90 observations was previously reported, as well as a careful evaluation of 33 patients who had amputations at the level of the forefoot or toes.[5,11]

In this test, relatively long periods of ischemia or arterial occlusion are used, because it has been demonstrated that the time necessary to produce maximal blood flow following arterial occlusion is greater in the lower extremity than Scheinberg and co-workers reported was necessary in the upper extremity.[14] Pertinent also is the observation by Greenwood and co-workers[6] that longer occlusion is necessary to produce visible hyperemia when the part is elevated than when horizontal.

The test is designed to be carried out at ordinary room temperatures with the occlusion being provided by an ordinary sphygmomanometer cuff. Table 1 shows the fluctuation in the filling pressure that can occur with changing blood pressures as measured by auscultation at the brachial artery. Thus comparison of filling pressure or height of penetration of hyperemia from day to day necessarily must include registration of the brachial arterial pressure. There seems to be a filling pressure or height of penetration of cutaneous hyperemia, as estimated by this method, below which necrotic lesions of the foot do not heal. This height or level approximates 35 cm. above the heart level. Secondarily it was noted that primary union or rapid secondary healing of amputations occurred in all cases in which there was penetration of hyperemia to 45 cm. or more at the amputation site. In several cases in which low filling pressures or low penetration of cutaneous hyperemia was accompanied by progressive death of tissue, healing began upon restoration of arterial continuity and an increase of filling pressure. Data on a case in point are given in Table 2.

On many occasions it was observed that although the foot filled at a height well above the required 35 cm., dependent rubor or pronounced reactive hyperemia developed with the limb in the dependent position following bed rest with the leg and foot at heart level. This led to conjecture that effective nutrition might not coincide with filling pressures of 35 to 45 cm.

In an attempt to find out the level at which nutrition was effective, approximately 50 microcuries of I^{131} in buffered solution making up a total volume of 1.125 ml. was inserted into the corium of the skin of the foot with a No. 30 hypodermic needle. Just before the insertion of the iodine, the sole of the foot was blanched either by occlusion of the femoral artery or by elevation alone and the ischemia was maintained by blood pressure cuff inflated to 300 mm. of mercury at the ankle. Immediately following the insertion of the iodine into the skin of the foot, a scintillation counter was positioned against the sole or dorsum of the foot and counts were recorded for not less than 5 minutes or more than 10 minutes. It was noted that the iodine remained where it had been placed so long as the occluding cuff was in place. Following deflation of the

TABLE 2.—*Progress in an Extremity in Which Low Filling Pressure Was Accompanied by Gangrene of First Right Toe*

Lesion	Height of Penetration of Hyperemia (Cm.)	Result
Arteriosclerotic obstruction of femoral artery; gangrene first right toe	0	Progression of lesion

Treatment	Postoperative Height of Penetration of Hyperemia (Cm.)	Result
Femoral thromboendarterectomy	45	Amputation of toe and primary union

Course	Height of Penetration of Hyperemia (Cm.)	Result
Re-thrombosis of femoral artery at 6 months	0	Recurrence of gangrene in stump

cuff the test was carried out in the usual manner and at the same time counts were made with the scintillation counter as the extremity was gradually lowered. Six patients were so studied and it was noted that the I^{131} was not removed significantly until levels of 45 cm. or more below the maximal filling pressure were reached. Similarly, in previous studies on three patients with the use of histamine diphosphate, it was observed that a histamine wheal could not be produced until the part had been depressed approximately 60 cm. below the maximal filling pressure or height of penetration of cutaneous hyperemia.

These studies indicated that perhaps filling pressures of 45 to 60 cm. are necessary for certain capillary functions. Neither of these studies, that with histamine or that with radioactive iodine, was sufficient either in number of tests or in detail to permit analysis; they merely indicate the direction of further investigation of this type in the study of capillary function in patients with obstructive or functional arterial disease. Appearance of the hyperemic flush was also checked against the increase in volume as the first blood entered the digit, using the Burch-Winsor digital plethysmograph. The two methods agreed quite closely.

Sympathetic paralysis, as produced by sympathectomy, lumbar sympathetic nerve block or peripheral nerve block, in most instances brings about a definite increase in the filling pressure.[10] To produce such a result the pressure in the more proximal larger vessels would necessarily be elevated. Blood pressure studies carried out at the ankle and wrist showed a definite rise following sympathetic paralysis, substantiating the findings of the elevation reactive hyperemia test in this regard.[4]

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A Test for Myocardial Infarction

The Present Status of the Use of Serum Lactic Acid Dehydrogenase

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• Determination of the amount of lactic acid dehydrogenase in the blood has been demonstrated as a useful aid in the diagnosis of myocardial necrosis. The reliability of the test and the time element of the appearance and disappearance of the enzyme in the blood give it advantages over transaminase determinations. In addition there appears to be a correlation of lactic acid dehydrogenase content with metastatic carcinoma. The levels of the substance correlate with the presence or absence of metastatic lesions and also with the extent of the metastasis. Few other clinical states are associated with increased levels of this enzyme, and in most instances the few that are can be excluded by other reliable criteria.

In 1954 and 1955 Hill and Levi and other investigators reported the serum content of the enzyme *lactic acid dehydrogenase* (LDH) to be elevated in neoplastic diseases. They studied 51 patients with cancer.[1,2] This enzyme was also shown to be increased in the serum of patients with myocardial infarction.[6,8] Further reports have tended to emphasize the value of this test in myocardial infarction[7] and perhaps in liver disease, and to minimize its value in cancer detection.[4,9] Our own observations are here reported as another fragment of knowledge regarding the uses of this test.

METHODS

Serum lactic acid dehydrogenase determinations were done according to the method of Hill and Levi.[2] Blood was drawn with special care to avoid hemolysis. The serum was separated from the specimen within one hour after collection, centrifuged until no blood cell sediment could be observed macroscopically and then centrifuged a final time. The specimens of serum were stored frozen in Wassermann tubes in amounts to be diluted for the test procedure. Determinations were done in duplicate on all specimens on two successive days. The determinations were made in a Beckman Model B Spectrophotometer at a wave length of 340 millimicrons using 1 cm.^{2} cuvettes. The LDH activity was determined in units of optical density change. One unit is equal to an optical density change of 1.00 per ml. per 30 minutes at 38°C. in a substrate pH of 7.8. The substrate was prepared according to the method of Hill and Levi.[2] All solutions except the buffer were prepared fresh each day.

The following clinical groups were tested: 30 patients with carcinoma, 23 with myocardial infarction, 11 with liver disease, 47 with miscellaneous illnesses, 11 with infectious mononucleosis and 39 with uncomplicated pregnancy. All patients with myocardial infarction had electrocardiographic evidence in support of this diagnosis. Three died and in two the diagnosis was proved by autopsy. In the patients with cancer the lesions were localized in four instances and disseminated in 16, five had leukemia and five had unclassified malignant disease. The diagnosis of infectious mononucleosis was established by a significant heterophil titer or a rise in titer in two or more specimens. The normal range was established by test of 268 patients showing no evidence of clinical disease.

RESULTS

Comparison of the various groups evaluated (Table 1) showed lactic acid dehydrogenase to be always elevated in myocardial infarction, and high values were obtained as late as two weeks after the

TABLE 1.—*Comparison of Lactic Acid Dehydrogenase Values in Patients with Various Diseases and Normal Persons*

Clinical State	No. of Cases	No. of Tests	LDH Units	
			Mean	Range
Carcinoma:				
Disseminated	21	22	25.5	16 to 80
Localized and unclassified	9	11	14.0	9 to 19
Myocardial infarcts	23	27	25.5	10 to 65
Liver disease	11	13	15.0	7 to 19
Infectious mononucleosis	11	14	19.25	14 to 57.0
Uncomplicated pregnancy	39	42	9.5	7.5 to 13*
Miscellaneous:				
Infections	15	15	10.0	7.5 to 12.0
Others	32	36	10.0	7.0 to 44.0†
Normals	268	320	10.0	7.5 to 12.5

Standard Deviation = 0.88, Range: 8.3 to 11.8.
*1 case—13 units. †4 cases—above 13 units, terminal.

The Clinical Laboratory of San Bernardino.
Submitted November 13, 1957.

attack. In metastatic carcinoma the LDH content was consistently high, with the extreme elevations usually associated with leukemia. Patients with liver disease showed the least striking variations in serum lactic dehydrogenase and oftentimes normal levels were obtained in the absence of jaundice (Table 2). In cases of infectious mononucleosis the LDH determinations were consistently high and appeared to vary directly with the heterophil titer. Levels in uncomplicated pregnancy were within normal limits, as observed by Hill[3] subsequent to his initial report of elevated levels and in agreement with the work of McDonald.[5]

DISCUSSION

The usefulness of lactic acid dehydrogenase determinations in myocardial infarction seems well established. There has been a total of at least 118 cases reported in the literature since the original observation made by Wroblewski and LaDue.[8] It has been pointed out in recent articles by White[7] and McDonald[5] that elevated serum values of this enzyme may be present at least a week following infarction. This sets the lactic dehydrogenase determination above the transaminase determination as a guide to the presence or absence of myocardial necrosis.

In liver disease there is obviously great need for further study of the associated presence of this enzyme in the serum. There have been 22 cases of hepatitis and 40 cases of cirrhosis reported, not including Wroblewski's. It appears that a certain proportion of patients with liver disease, particularly those with active hepatitis in the presence of jaundice, have an elevation of this enzyme in the serum. However, the relationship of the appearance of this enzyme to changes in the serum proteins has not been well worked out and the role of some degree of hepatic cell necrosis has not been determined. This would seem to be a good field for further clinical and laboratory observation.

The controversial problems surrounding the development of the so-called "cancer test" are well illustrated in these studies. Determination of ele-

TABLE 2.—*Comparative Laboratory Values for Various Tests in Liver Disease*

Case No.	LDH* Units	Cephalin Flocculation	Total Bilirubin mg. per 100 cc. Serum	Serum Proteins† (Per Cent of Total)				
					Globulins			
				Albumin	Alpha^1	Alpha^2	Beta	Gamma
1	12.0	3+	....	45	6	8	20	21
2	7.0	4+	....	53	5	10	14	18
3	15.0	....	....	....	....	....	....	....
4	16.5	4+	....	....	....	....	....	....
5	17.5	4+	3.8	45	7	11	7	30
6	19.0	4+	....	....	....	....	....	....
7	16.0	....	....	....	....	....	....	....
8	12.0	....	....	....	....	....	....	....
9	16.5	4+	....	....	....	....	....	....
10	9.0	4+	3.9	39	6	8	18	29
11	9.5	4+	2.4	36	5	10	17	32

*Lactic acid dehydrogenase.

†Normal range of serum proteins: Albumin—50 to 55%; Globulins: Alpha^1—4 to 7%; Alpha^2—7 to 11%; Beta—11 to 15%; Gamma—16 to 18%.

TABLE 3.—*Lactic Acid Dehydrogenase Values in Carcinoma as Reported by Various Investigators, 1954-1955*

Report	Units	Patients with Carcinoma			Controls		
		No.	Mean	Range	No.	Mean	Range
Hill, B., et. al	O.D.* change in 30 minutes per 0.01 cc. serum	51	0.21	0.110 to 0.670	104	0.085	0.049 to 0.110
Zimmerman†	Micro-mols of DNPH‡ per 100 cc. serum in 30 minutes	30	50 per cent of patients were elevated	100 to 800	40 Normal	181	80 to 250
Hill, J. H.	O.D. change in 30 minutes per 0.01 cc. serum	87	0.149	0.060 to 0.583	309	0.143	0.048 to 0.462
Present study	O.D. change in 30 minutes per 1.0 cc. serum	30	18.5	9.0 to 80.0	268 Normal	10.0	8.3 to 11.8
Disseminated		21	25.5	16.0 to 80.0	47 Misc.§	10.0	7.0 to 44.0
Localized and unclassified		9	14.0	9.0 to 19.0			

*O.D. = Optical density.
†Zimmerman did not divide cases as to localized or metastatic.
‡Diphosphopyridine nucleotide (reduced).

§Miscellaneous controls were clinical states excluding carcinoma, myocardial disease, infectious mononucleosis, and liver disease (see Table 1).

vated amounts of lactic acid dehydrogenase in serum was first thought to be a reliable index of the presence of cancer and was so reported by B. Hill and others in 51 cases.[2] They found this enzyme to be increased in the serum and the amount to be significantly higher than in the serum of normal persons and patients with other clinical states, such as tuberculosis and pregnancy. However, Zimmerman reporting on 30 cases[9] and J. H. Hill reporting on 87 cases,[4] found only slight differences between patients with other illnesses and those with neoplastic diseases.

Our own observations in this field are summarized in Table 3 and comparison is made between the cases reported by other workers and those in our series. It is to be noted that division between metastatic and local involvement was not reported by all investigators. Our determinations indicated elevation of LDH in almost all patients with carcinoma. The mean was 18.5 units. In only five of these cases was the malignant lesion thought to be strictly localized, in 21 it was metastatic and in four cases unclassified. In the cases of dissemination as a group, the mean level was consistently elevated and showed a higher average (25.5 units) than the group as a whole. This is in agreement with the observations of McDonald.[5]

From our own observations we can conclude, with more certainty, that the lactic acid dehydrogenase level in serum will be elevated in most cases of metastatic carcinoma.

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Social Security Says:

"YOUR SOCIAL SECURITY TAXES pay for these nine programs: Social insurance: (a) Unemployment insurance; (b) Old Age and Survivors Insurance. Public assistance to the needy: (a) Old-age assistance; (b) Aid to the needy blind; (c) Aid to dependent children; (d) Aid to the permanently and totally disabled. Children's services: (a) Maternal and child health services; (b) Services for crippled children; (c) Child welfare services."

In other words: In spite of the fact that most of these represent federal grants to state aid, this Social Security program is being sold to you and me as "contributory social insurance."

—*From the Department of Public Relations, American Medical Association*

Varicose Veins

A Practical Approach to Treatment

ROBERT ELLENBURG, *M.D.*, Los Angeles

• Adequate treatment of varicose veins requires thorough mapping of perforating veins, communicating veins and "blow out" areas. Combined ligations, stripping and injection of sclerotic substances after operation is the most effective regimen of therapy.

The technique of stripping is facilitated by isolating the saphenous vein at the ankle, inserting the stripper from below upward, then making a transverse groin incision over the palpable stripper. The tip of the stripper should be twice the diameter of the vein to be removed. Stripping should be done with the patient in the Trendelenburg position.

All patients must be examined at regular intervals after operation and injection of sclerosing material carried out as necessary.

THE TREATMENT of varicose veins has undergone many changes within the past 20 years. No one method of treatment has been found to give good results consistently. Removal of the involved veins by the internal stripping procedure has been generally the most effective of the surgical methods. Best results are obtained by a combination of stripping, multiple ligations and postoperative injection of sclerotic substances. The purpose of this article is to focus attention on ways and means of handling the patient with varicose veins that will simplify the operation and improve the results.

Selection of the patient for operation is always of primary consideration. Operation is indicated in all cases of varicose veins in which there is pain, pigmentation, sclerotic contracture or ulceration or other stasis changes of the soft tissues. Sometimes, coexisting serious systemic disease may be a contraindication and some observers consider pregnancy a contraindication to surgical treatment of varicose veins. A pregnant patient who had varicosities before she was pregnant, however, should be treated as a nonpregnant patient. The author has treated varicosities in many pregnant women with as good results as in nonpregnant patients.

A thought often expressed is that if the superficial system of veins is obliterated in a person who has had deep venous thrombosis, there will be no way for the blood to return from the extremity. Practically, however, veins that have become varicose, enlarged and incompetent do not carry blood in the proper direction, but instead add to the burden of the competent veins, most of which are within the muscle, or between muscles and form the deep system of veins. If any doubt exists in a particular case, the patient may be made to walk with a tourniquet around the upper thigh sufficiently tight to cut off the superficial venous return. If pain develops surgical treatment of the superficial veins might be contraindicated. Rarely does that occur, however, in a chronically involved leg.

Best results of surgical therapy are obtained by mapping out "blow out" areas, incompetent communicating veins and large masses of veins well beforehand. Too often this is not done until just before operation, when the patient is premedicated, it cannot then be done adequately. The multiple tourniquet test can help greatly in determining the sites of incompetent communicating veins. In this test, the veins are emptied by elevation of the extremity and then the suspected area is isolated between two tourniquets. Filling of a vein between the tourniquets in 30 seconds or less is evidence of an incompetent communicating vein which should be marked for ligation at operation. Also helpful for locating incompetent communicating veins is the Pratt test: A tourniquet is applied to the thigh and the entire leg is bandaged up to the tourniquet. The bandage is slowly unwound from above, downward. A bulge appears when the site of an incompetent communicating vein is uncovered.

Skin marking, although seemingly an insignificant detail, is a problem. Many solutions have been tried, but none have proven entirely satisfactory. Markings made with a ball-point pen, silver nitrate or a dye are easily seen but have the disadvantage of washing off, burning the skin or fading out in the preoperative preparation of the extremity. It is best to mark the sites temporarily with a ball-point pen and then after the patient is anesthetized and before the leg is prepared make scratch marks on the skin with a pin or knife. The anesthesia of choice is spinal anesthesia, supplemented

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From the Vascular Service White Memorial Hospital, College of Medical Evangelists.

Submitted August 9, 1957.

with Pentothal (thiopental sodium) if the patient wishes to be asleep. The entire extremity and lower abdomen should be prepared as the operative field. A rubber glove provides a cover for the toes and yet permits good exposure of the malleolar regions.

Some difference of opinion exists as to type and location of incision for high saphenous ligation. After adequate trial of various incisions, the author adopted an incision made directly in the groin crease as offering the most advantages. The saphenofemoral junction is higher than it is generally thought to be and this rather high incision gives exposure above the junction where the important tributary veins need to be isolated and divided. Incision at the groin heals primarily and is less painful than other types as there is no pull or skin tension in the groin crease. Dissection beneath the skin may be in a vertical direction just as with the vertical incision, and therefore there is no greater destruction of the lymphatic chain. When tributary vessels are encountered, it is best to section and ligate them immediately to avoid accidental tearing of the vessel and consequent hemorrhage and retraction into the soft tissues.

The saphenous vein is retracted with a Penrose drain until it is unquestionably identified. Identification can only be positive when the junction with the common femoral vein is clearly demonstrated. At this time the bulb is ligated with a free ligature and a suture ligature. The vein is then sectioned distal to the ligatures. An intraluminal stripper may be inserted at this time from above, but very often valve cusps that point upward will arrest the tip of the stripper and keep it from being passed the entire length of the leg. The author has found it better to isolate the greater saphenous vein through an incision 1 centimeter long anterior to the internal malleolus and pass the intraluminal stripper from below upward. Usually it can be passed to the groin without difficulty. This may be done before the groin dissection and palpation of the stripper in the saphenous vein then will facilitate identification of the vein. Sometimes to get it entirely through the vein the stripper may have to be passed in both directions, the vein being tied to it superiorly and inferiorly. This prevents unnecessary loss of blood; and if the stripper, not functioning perfectly, does not remove the segment of vein intact, the fragment left behind is smaller and easier to cope with because of the lesser distance.

As to the kind of stripper, I find one with a very flexible shaft and interchangeable heads (olives) of varying sizes to be the most useful. The Zollinger-Gilmore stripper is one such.

After the stripper has been placed within the vein, attention should be turned to the areas marked for exploration. There are several reasons for delaying the actual stripping. One is that bleeding after stripping can be greatly decreased if the patient is in a Trendelenburg position, but this position makes dissection and identification of communication veins and vein masses more difficult, as it causes them to collapse. Another reason for delaying stripping is that pressure in the form of elastic bandages should be applied as soon afterward as possible to reduce bleeding, and unless the low ligations have not been done before the stripping, it may be a considerable time before bandages can be applied. The veins underlying the preoperative marks are treated by ligation and segmental removal. If both legs are being treated, they are both brought to this stage.

The patient is tilted into moderate Trendelenburg position for the stripping procedure. Steady traction is applied to the stripper, care being taken not to bend the stripper too acutely lest it be damaged. For the vein to come out in the desired manner, it must pleat or accordion on the stripper. Failure is usually due to using an olive tip that is too small, which may result in inversion and breaking off of the vein or a longitudinal splitting. If either occurs the remaining piece of vein can be re-engaged through a secondary incision made along the course of the vein. The olive tip should be at least twice the diameter of the vein. If the right size is not available, tying a 1-inch Penrose drain securely over the olive will make it function like a larger tip. The drain must be moistened so that it will slide easily, and is pulled through the subcutaneous canal as the vein is removed. When it appears at the fossa ovalis it is secured with a hemostat and the stripper is cut free. If upon careful examination of the vein it is found that all of it has been obtained, the Penrose drain is withdrawn. If some of the vein inverted and then broke, it will be found surrounding the drain and can be removed. After the vein has been stripped, some bleeding is to be expected, but putting the patient in the Trendelenburg position usually controls it adequately; if it does not, residual bleeding is easily controllable by pressure.

Elastic bandages are applied from toe to groin. The wrappings of the thigh should be removed in 24 to 72 hours. The elastic bandages on the lower leg are maintained until there is no longer any significant edema. The incisions of the lower leg heal more slowly than those of the upper, particularly if there are pronounced stasis changes. It is well, therefore, to leave the sutures in place in the lower leg for ten days to two weeks. The groin and thigh incisions heal rapidly and sutures there may be removed in five days.

The author strongly believes that injection therapy has no place in the treatment of the usual varicose vein problem except after surgical resection and obliteration of the large venous channels. The use of sclerotic agents before operation produces segmental obstruction without obliterating the vein, making stripping ultimately much more difficult. Moreover, if sclerosing drugs are used in large enough amounts to cause thrombosis in a large vein, considerable perivenous reaction results.

If it is to be used, injection therapy should be started approximately a month after operation. The author has found a 1 per cent solution of sodium Sotradecol® (sodium tetradecyl sulfate) satisfactory. Three per cent solution causes too much reaction. Injections, each about 0.5 cc. of solution, are done with the patient standing. Pressure is applied with a cotton ball at the site of injection as the needle is withdrawn. Pressure then is maintained for 24 hours by an elastoplast bandaid and elastic bandaging of the extremity. Usually not more than six injections are done at a sitting, for that is about the limit of calm tolerance for most patients and, also if there is much reaction to the sclerotic substance the pain in the leg will be proportional to the number of injections. Injections are repeated at intervals of three weeks until the desired result is obtained.

To obliterate unsightly superficial "spider-web" veins, one must insert a needle into one of the larger or "feeder" veins. A No. 25 (French) short-bevel needle is advisable. If a long bevel is used, the needle may appear to be within the vein even though part of the bevel is outside, which might lead to extravascular injection of the sclerotic substance. A dilute sclerosing solution such as one-half of 1 per cent sodium Sotradecol or Sotradecol foam produced by shaking a bottle of 1 per cent solution is used. When the needle is properly placed, it is possible to see that the blood is driven out of these fine veins as the injection proceeds. If any swelling is noted, the injection should be stopped immediately.

This thought must be impressed upon the minds of patients with varicose veins: Recurrences are to be expected, and repeated examinations and sclerosing injections at six-month intervals are necessary. Since "See your dentist twice a year" is quite well accepted and dental patients do not feel they have been inadequately treated if another cavity is found on subsequent visits, this may be used as an analogy in explaining the varicose vein problem to patients.

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Atypical Manifestations of Gout

EUGENE COODLEY, *M.D.*, Los Angeles

• **Atypical occurrence of gout (in a 37-year-old Negro woman and in an 11-year-old girl) and atypical manifestations (involvement of both hands and both feet, and of shoulders, elbows, wrists or ankles) are reported in a study of five cases. Because specific and effective therapy for gout is available, and because the diagnosis, once suspected, is readily confirmed by estimation of plasma uric acid content and by therapeutic trial, it becomes more urgent to recognize that gout is a frequently overlooked diagnosis.**

BECAUSE THE CLASSIC PICTURE of gouty arthritis is so well known, even to the layman, there is a special danger of missing the diagnosis in atypical cases of this disease. Gout is not a rare cause of arthritis, but has been estimated to account for almost 5 per cent of nonsurgical joint disease. Essentially, it is an inequality between production and elimination of uric acid resulting in various bodily changes, primarily of the joints but also of other systems.[3,12,13]

Uric acid formation in the body depends on four factors: The availability of precursors, the rate of formation of purines from these precursors, the direct transformation (oxidation) of the purines and the speed of cell formation.[4,14] Radioisotope studies have shown that in patients with gout the miscible pool of uric acid is larger and the daily turnover is smaller. There is no clear-cut evidence that renal excretion is defective in gouty patients, except in those renal complications which are secondary to the long-standing disease.

Uric acid concentration in serum or plasma above 6 mg. per 100 cc. in males or 5.5 mg. in females is considered abnormal. The concentration may be normal early in the disease or between attacks, but it eventually rises to abnormal levels in three out of four patients. Other causes for an increase in uric acid, such as blood dyscrasias, psoriasis and renal disease, must be eliminated from diagnosis. It must be remembered, too, that uric acid content is depressed by a number of drugs which are uricosuric, among them salicylates, phenylbutazone, cortisone and corticotropin (ACTH).

Tophi, although present eventually in almost half the cases of gout, are rarely seen early. They should be looked for in the elbow, the ear, the Achilles tendon, the knee and in bunions (Figure 1). Unlike rheumatoid arthritis, gout does not cause nodules under the olecranon. Tophi may occur on finger-joints, simulating Heberden's nodes. Ulcerating sinuses may form, and the characteristic material can be demonstrated by microscopic or chemical studies.

Roentgen changes, too, usually occur late in the disease, and in only a fourth of all cases. They usually involve the hands or feet, and represent replacement of normal subchondral structure by urate deposits (Figure 2). Later, cartilage is destroyed and the joint may be obliterated. Other causes of a similar punched-out appearance in roentgen films must be considered—Boeck's sarcoid, trauma, rheumatoid arthritis, hyperparathyroidism and even osteoarthritis.

A fourth of all patients with gout have chronic gouty arthritis. Gout may involve the patella without causing demonstrable lesions in other bones,[9] while at the other extreme is widespread ankylosis simulating rheumatoid arthritis, as described by Bauer.[2]

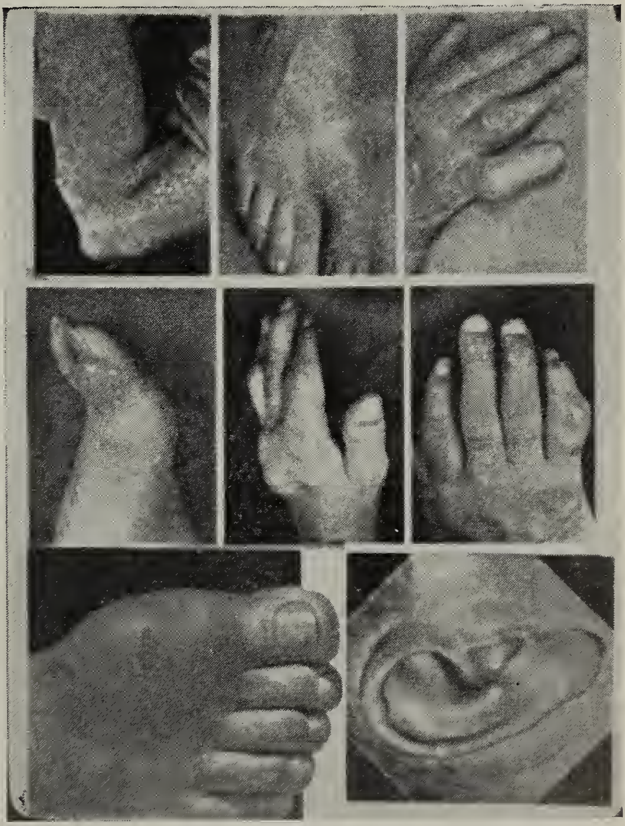

Figure 1.—Various locations of tophi.

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Submitted September 9, 1957.

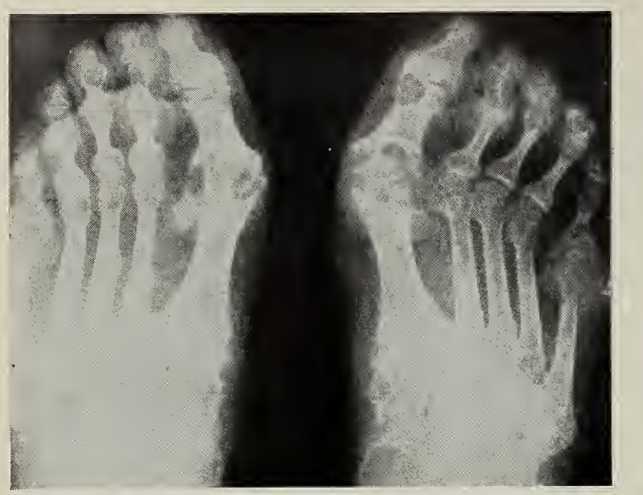

Figure 2.—Roentgen changes typical of gout in feet.

Renal changes include formation of urate stones in 10 to 15 per cent of patients. These stones also tend to form during therapy with certain drugs that promote copious uric acid excretion—benemid probenecid, for example. The stones tend to pass spontaneously, and often precede the first arthritic manifestations. Albuminuria, also, may occur before arthritis, as it does before nephritis, hypertension or pyelonephritis.[8] A syndrome of renal complications described by Modern[8] consists of renal insufficiency, fixed specific gravity and azotemia, with normal blood pressure and no albuminuria.

The eyes are sometimes involved in this disease, and paraplegia related to cerebral deposition of urates was described by Koskoff.[7]

Differential diagnosis must exclude post-traumatic arthritis, in which the symptoms appear immediately after trauma, are localized to the area of trauma and do not respond to colchicine; intermittent hydrops, in which the pain and swelling are less pronounced than in gout; rheumatic fever, in which migratory pain and cardiac diseases are distinctive; rheumatoid arthritis, in which there is no complete remission between attacks and in which daily morning fibrositis is a feature, as well as the location of joint involvement, the predominance in females and the lack of response to colchicine. Acute cellulitis and infectious arthritis must also be distinguished, but tend to respond specifically to antibiotics. Arthritis of the acute episodic rheumatoid type may closely simulate the recurrent attacks of gout, but usually symptoms begin after a time to persist between attacks, and morning fibrositis is present.

As indicated above, prompt response to a full course of colchicine is often of diagnostic value; but definitive treatment has advanced well beyond the mere administration of this drug and dietary restrictions. It varies in the three phases: The acute attack, the period between attacks, and the chronic disease.

During acute episodes, colchicine should be taken orally, a single 0.5 mg. tablet every hour, or two tablets every two hours, until symptoms subside or until gastrointestinal cramps and diarrhea develop. These symptoms are controlled with bismuth and paregoric, and no further colchicine is given for 36 to 48 hours. Colchicine may be administered intravenously also, in a dose of 1 to 3 mg. Phenylbutazone is also effective in an initial dose of 600 to 800 mg. the first day, followed by 100 mg. three times daily for several days. Cortisone or corticotropin may be used, but toward the end of steroid therapy colchicine should be given for several days (0.5 mg. every six hours) to prevent rebound recurrence. General measures include fluids, heat, avoidance of purine and alcohol, elevation of the affected joint and salicylate as necessary.

Between attacks, the maintenance dosage of colchicine varies from three or four tablets (0.5 each) a week to two tablets a day, according to the patient's tolerance and the severity and frequency of attacks. The diet should be low in fat and purine, high in carbohydrate, but controlled in caloric intake to prevent obesity. Alcohol should be allowed only occasionally. A uricosuric agent should be administered, such as probenecid, which reduces tubular urate reabsorption and increases uric acid excretion. A few patients need only 0.5 gm. of this drug a day; others as much as 2 gm. The average requirement is 1.5 gm. a day in two doses. The initial doses should be small, to avoid too great a mobilization of uric acid with stone formation. Other precautions must be taken in administering probenecid; it may be given concurrently with colchicine, with a high fluid intake and with alkalinizing agents such as sodium citrate.

The management of chronic gout[5] requires the same measures with diet and probenecid. Surgical operation may be indicated for removal of tophi that are excessively large or unsightly or in painful locations such as the heels, the distal interphalangeal joints or the elbow. Tophi may be disabling also when they involve muscle tendons. Chronically discharging sinuses with tophaceous deposits likewise may be removed surgically.

To illustrate the atypical diagnostic features and the complications in management that may be encountered in gout, the following cases are reported:

Case 1. A 37-year-old Negro woman complained of painful swelling of both hands, recurring every few weeks and lasting several days each time. These symptoms had been present for five years. There had been one episode of swelling of the left foot three years before, but never any involvement of the

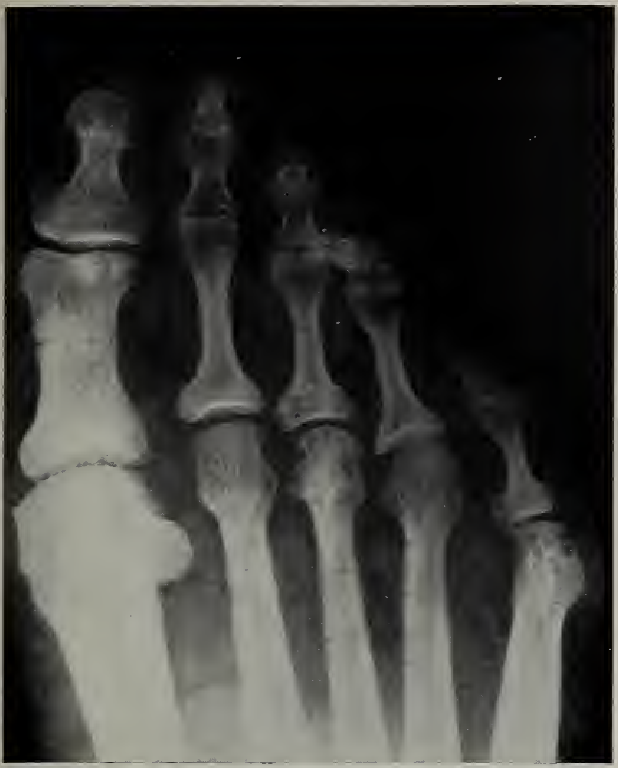

Figure 3.—Cystic areas of erosion seen in distal ends of metatarsals in 37-year-old Negro woman (Case 1).

big toe of either foot. The patient described the attacks as usually starting in the early morning and reaching a peak by afternoon. One hand was usually involved, particularly in the area of the carpometacarpal articulations, and the area would become red, warm, shiny and swollen. Symptoms persisted several days, and then gradually subsided. There was no history of arthritis otherwise, no history of venereal infection, rheumatic fever or known foci of infection. The family history was noncontributory, and physical examination revealed no significant abnormalities. The only significant laboratory finding was the serum uric acid concentration, 6.6 mg. per 100 cc.

Roentgen studies showed multiple cyst-like rarefactions at the metacarpophalangeal joints and also at the metatarsophalangeal joints of both feet, without evidence of osteoporosis or joint destruction (Figure 3).

The patient was treated with colchicine orally at the next attack, with prompt relief of symptoms and no evidence of toxicity. She was then restricted to a low fat, low purine diet, and given colchicine (four 0.5 mg. tablets weekly) and benemid probenecid (1 gm. daily). In the next two years, only two mild episodes of joint pain and swelling occurred, and there were no symptoms between attacks. The blood content of uric acid after several months and subsequently was within normal range—from 3.5 to 4.5 mg. per 100 cc.

Comment: Gouty arthritis in a Negro woman was first reported in 1953 by Perlman and co-workers[10] and in the following year Bartfeld[1] reported a similar case, but both the patients had passed the menopause. The present case is the first reported in a Negro woman before the menopause. The characteristic clinical picture, the response to colchicine, the uric acid concentration, and the roentgen findings corroborated the diagnosis. The response to therapy was striking, and none of the possible complications of benemid therapy occurred in the two years that she was observed.

CASE 2. A 64-year-old white woman had had joint disease from the age of 53. Initially the knees became swollen and painful; later the hands and shoulders were involved. The hands and knees had been swollen intermittently, with gradual development of deformity and limitation of motion. Walking was impeded. No systemic symptoms such as loss of weight, fever, fatigability or anorexia were noted during this period. Morning pain and stiffness had been present more than three years. The history was noncontributory except for mild benign hypertension which had been present for 25 years. Blood pressure was 210/95 mm. of mercury. There was slight cardiac enlargement and a Grade II systolic aortic murmur. In both hands the carpophalangeal and proximal interphalangeal joints had nodular swelling, slight tenderness and moderate limitation of motion. Both elbows had subcutaneous subolecranon nodules. In the right ear lobe a small, firm, nontender nodule was palpated.

Serum uric acid of content was 7.7 mg. per 100 cc. The sedimentation rate was 36 mm. per hour (Westergren). Material aspirated from the nodule in the ear lobe revealed chronic fibrosing granulation tissue bearing uric acid crystals. The albumin-globulin ratio was 4.6/3.3 and total protein content 7.9 mg. per 100 cc. No abnormality was noted in an electrocardiogram.

Roentgen films showed cystic areas of rarefaction in the distal ends of the metacarpals, small areas of erosion in the proximal interphalangeal joints, areas of rarefaction in the carpal bones and right ulna, cystic areas of rarefaction in articular surfaces of both elbows and narrowed joint space in the knees, with bone erosion and cystic areas (see Figures 4 and 5).

Therapy included low-fat, low-purine diet, benemid probenecid in dosage of 1 gm. daily and colchicine in dosage of two 0.5 mg. tablets daily. Salicylates were not used because of possible interference with benemid effect. Pains and stiffness gradually improved and the therapy was well tolerated. Walking became easier and there was slightly more hand motion present. No evidence of benemid toxicity or gastrointestinal distress due to colchicine was noted. At the time of this report this regimen was still being followed and the disease was in fairly good control.

Comment: For many years this patient had been treated as having rheumatoid arthritis. A course of

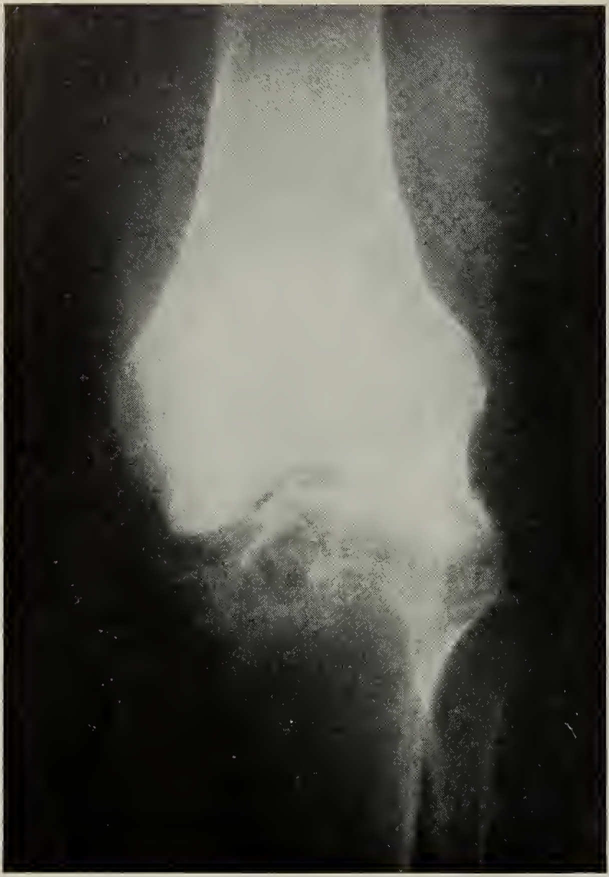

Figure 4.—Cystic areas about the left knee of 64-year-old woman (Case 2).

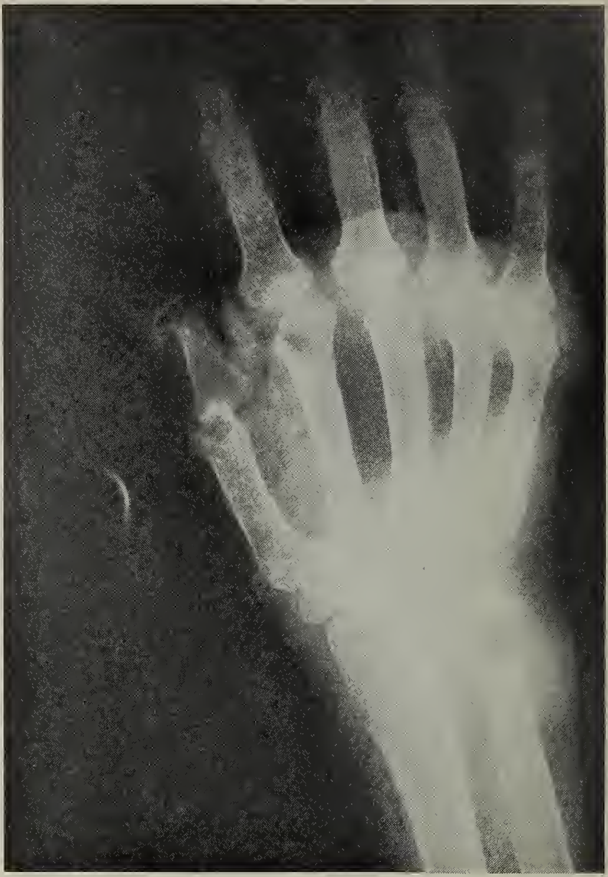

Figure 5.—Bony destruction seen in wrist and metacarpals in woman 64 years of age (Case 2).

gold therapy had not helped and she had also received steroids with only slight benefit. The widespread distribution of joint involvement and the fact the patient was a woman contributed to the confusion in diagnosis; moreover, the cyst-like structures observed roentgenographically resembled those of rheumatoid arthritis. The characteristics of the attacks, the other roentgen findings, the presence of tophi, and the concentration of uric acid led to the definitive diagnosis and specific therapy.

Case 3. An 11-year-old white girl had acute onset of pain and swelling in the left first metatarsophalangeal joint lasting several days, then spontaneously disappearing but recurring several months later. No other joints were involved; there was no fever, chill or malaise. An aunt and an uncle of the patient had had gout.

When first observed, the first left metatarsophalangeal joint was acutely swollen, discolored, tender and limited in motion by pain. All other joints were normal, as was the general physical condition.

The plasma uric acid content was 7.7 mg. per 100 cc.; the sedimentation rate 36 mm. in one hour. On roentgen study the left foot appeared normal. An electrocardiogram showed no abnormality.

A diagnosis of acute gouty arthritis was made, and when colchicine was given there was prompt remission. One additional flare-up of a similar type was noted in the next six months despite maintenance dosage of salicylates and avoidance of high purine foods. Thereafter, benemid probenecid was given in dosage of 1 gm. daily with sodium bicarbonate in dosage of 2 gm. daily. No further attacks occurred in the next year and six months later the plasma uric acid content was 4.4 mg. per 100 cc. No other joint manifestations developed, and no toxic reaction to the drugs was noted.

Comment: Benemid is usually not required for so young a patient, since diet and salicylates alone or in conjunction with colchicine are usually adequate; but with recurrent attacks or gastrointestinal disturbance from salicylates when given in adequate doses, the use of benemid must be considered.

Case 4. A 52-year-old white woman was first observed for acute painful swelling of the right wrist, which had persisted four days, with redness, local tenderness and limitation of motion by pain. There had been no preceding trauma and no other joints were affected. One similar episode had occurred several months before. There was no other joint disease and upon physical examination no other abnormality was noted. The number of leukocytes was slightly above the upper limits of normal; the sedimentation rate 32 mm. in one hour (Westergren). Plasma uric acid content was 7.4 mg. per 100 cc. No abnormality was observed roentgenographically.

Colchicine therapy was followed by prompt remission and was maintained in gradually reduced dosage. Salicylates were administered also and a restrictive diet was prescribed. At the time of this report, there had been no further attacks, and serum uric acid, as determined on several occasions, was less than 5 mg. per 100 cc.

CASE 5. A 32-year-old white man had periodic painful swelling of one or both ankles, accompanied on one occasion by swelling of the large toe. These attacks were occurring every month or oftener, and more recently a slight painful swelling had persisted between attacks. When the patient was first observed, only the left ankle was swollen. There was no systemic, venereal or other joint disease and no significant family history. Plasma uric acid content was 6.4 mg. per 100 cc. and there were no other significant laboratory or roentgen findings.

Colchicine therapy at first produced only slight improvement, and a second course gave rise to cramps and diarrhea before any substantial improvement was achieved. Corticotropin gel was then given, 60 units a day, and on the third day colchicine therapy was resumed in a dosage of one 0.5 mg. tablet three times a day. Symptoms gradually receded and maintenance dosage was continued, but after six weeks painful swelling recurred in the opposite ankle, although uric acid content was normal. Phenylbutazone was given in doses of 600 mg. the first day and 300 to 400 mg. daily for several days thereafter. Symptoms gradually receded without toxic manifestations, and thereafter a dosage of 1 gm. of benemid a day was maintained and the disease did not recur.

Comment: This case illustrates the difficulty of differentiating episodic rheumatoid from gouty arthritis when clinical and laboratory observations are more equivocal. In the presence of some persistent symptoms between attacks and involvement of several joints, episodic rheumatoid or early Reiter's syndrome must be considered, but the character of attacks, slight increase in uric acid, response to therapy, and negative result on hemagglutination test made the diagnosis of gouty arthritis more probable. Several methods of treating acute arthritis were used in this case, and maintenance therapy with benemid was instituted because of the frequency of attacks. No salicylates should be given concurrently with benemid because they interfere with its action on the kidney.

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Prepartum Depression

A Study of Seventy Unwed Mothers Treated with d-Amphetamine Sulfate and Amobarbital

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• Seventy unwed pregnant patients in states of mild to moderate depression evidenced by one or more symptoms (tenseness, "nervousness," crying spells, listlessness, fatigue, nausea and vomiting, insomnia and overeating), received informal psychotherapy and a sustained-release capsule combining d-amphetamine sulfate and amobarbital.

Forty-eight patients had complete or substantial relief of symptoms, 15 had partial relief, seven had slight or no relief.

Use of the preparation seemed to make tense, "nervous" patients more communicative and amenable to counseling, but was less effective in listless, easily fatigued patients.

Because of its direct mood-alleviating action and its ability to facilitate psychotherapy, the d-amphetamine sulfate-amobarbital combination proved a very effective treatment for mild and moderate depression accompanying pregnancy.

MILD TO MODERATE DEPRESSION is a commonly observed condition in pregnancy. It may be accompanied by anxiety and be evidenced in crying spells, nervousness and irritability, overeating, insomnia, nausea and vomiting. It has been noted that similar symptoms often accompany mild to moderate depression not associated with pregnancy.[9,10]

Several investigators[4,5,7,8] have reported effective use of a preparation combining d-amphetamine sulfate and amobarbital as supportive treatment for depressed, anxious patients. However, the literature does not, to our knowledge, contain any reports of studies done to test the possible value of the preparation as a treatment for symptoms of depression and anxiety during pregnancy. Therefore, the following study was conducted on 70 mild to moderately depressed unwed pregnant women. Because many of the women in this study had pronounced neurotic tendencies, and because all were subject to considerable environmental stress, it was felt that they would provide a more than usually difficult test for the preparation.

Method

The study was conducted over a six-month period on 70 patients at St. Anne's Maternity Hospital in Los Angeles. St. Anne's, a specialized teaching and rehabilitation institution for unwed mothers, is a charity hospital operated by the Franciscan Sisters of the Sacred Heart.

Before receiving the medication, each patient was given a complete examination. Any patient with symptoms of serious mental disorder was eliminated from the study.

In the 70 patients, depression and anxiety were accompanied by feelings of guilt, rejection, abandonment and censure. Before and during the study the patients received occasional, informal psychotherapy consisting, for the most part, of interviews with the nuns, social workers and other members of the staff. These interviews enabled the patients to discuss their problems and to make plans for the future.

All the patients received the same routine prenatal care by the resident and teaching attending staff.

Thirty-seven of the 70 patients were less than 21 years old; the youngest (four patients) were 15. The ages of the remaining 33 patients ranged from 21 (five patients) to 35 (four patients). Sixty-one were undergoing their first pregnancy, eight their second and one her fourth. Two months was the earliest stage of gestation at which administration of the preparation was begun. In one patient it was started at the beginning of the eighth month. The average time was the fourth month.

Depending upon the predominant symptoms, each patient was classified into one of two general groups. Those in Group I (55 patients) had psychic symptoms chiefly—tenseness, "nervousness," moodiness, crying spells, apprehension, irritability, listlessness and fatigue. Group II (15 patients) was composed of patients who, in addition to one or more of the Group I symptoms, had either nausea and vomiting (nine patients) or insomnia (five patients) or both nausea and vomiting and insomnia (one patient). Twenty-nine patients (27 in Group I, 2 in Group II) also were unable to control their appetites.

The drug combination was administered by means of a sustained release capsule* containing hundreds

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From St. Anne's Maternity Hospital, Los Angeles.

*Dexamyl Spansule capsules, Smith, Kline & French Laboratories.

of coated pellets designed to release small doses continuously over eight to ten hours. The capsule is supplied in two strengths. The lower strength (d-amphetamine sulfate 10 mg., amobarbital .06 gm.) was given to 57 patients; the higher strength (d-amphetamine sulfate 15 mg., amobarbital .09 gm.) was given to 13, all of whom had listlessness and easy fatigability. Each patient received one capsule a day, before breakfast.

The patients were examined at the end of the first, third, sixth and eighth week of treatment. Their response was graded on the following criteria: *Excellent* (complete disappearance of symptom), *Good* (substantial relief), *Fair* (partial relief), and *Poor* (slight or no relief). In addition, observations were made on any changes occurring in the patients' sociability, cooperation with the staff and response to counseling.

Results

For all 70 patients with either psychic or physical symptoms of mild to moderate depression, the results were excellent in 24, good in 24, fair in 15 and poor in seven. For the 55 patients whose symptoms were primarily psychic, the results were excellent in 18, good in 21, fair in 11 and poor in five. Two of the five patients who had insomnia had an excellent result, three a fair result. Of the ten who had nausea and vomiting, six had an excellent result, two a fair result, and two a poor result.

Overeating, a symptom observed in 29 patients, was completely or substantially controlled in 23, only partially controlled in five and in one was not changed. (None of the patients who ate normally before taking the drug preparation had a loss of appetite.)

Five of the 13 patients who received the higher dosage complained of insomnia and three of increased nervousness after taking the preparation. These side effects disappeared when the lower dosage was substituted.

Seventy per cent of the patients who had excellent to good results showed improvement by the end of the first week, the earliest relief occurring within three days. In one patient no improvement was noted until the end of the eighth week.

There were no significant differences between the responses obtained in the younger and the older patients.

The treatment appeared to be particularly beneficial in the tense, "nervous" patients whose feelings were "bottled up." These patients became more relaxed, communicative and cooperative with the counselors. They seemed better able to "ventilate" their feelings and were more amenable to suggestions and advice. The medication seemed less effective in patients whose depressions were characterized chiefly by listlessness and an inability to "get started."

The following brief case reports illustrate typical results:

CASE 1. (Excellent result.) The patient was 20 years of age and in the fifth month of her first pregnancy. She was a factory worker, had been reared in another state, had not gone beyond third grade in school and had come to Los Angeles at the age of 15. Her mentality was decidedly subnormal. Her family circle was intact but was disturbed by frequent and violent quarrels and occasional brief desertions by her father. An older sister's whereabouts were unknown. The putative father was 21 years old, unmarried, unwilling to assume responsibility, but was amenable to contributing small sums of money from time to time. The patient was depressed, complained of frequent nausea and vomiting and recurrent periods of extreme nervousness. She spoke of "disappearing" as her sister had done, and viewed her pregnancy as "punishment."

During the first week of treatment, the nausea was completely relieved and nervousness subsided. At the end of the fourth week of treatment the patient was only mildly depressed, had no nausea or vomiting and only infrequent periods of nervousness. Treatment was discontinued at the end of six weeks. Thereafter, the patient was observed at two-week intervals and there was no recurrence of symptoms.

CASE 2. (Good result.) The patient, 28 years of age and in the fourth month of a second pregnancy, was a factory worker who had been divorced the previous year. Her first child, a five-year-old girl, had been living with the patient's parents since the divorce. The patient maintained that her former husband was the father of the unborn child, although he denied this and refused pecuniary assistance. The patient appeared to have had a satisfactory home life before marriage and a somewhat better than average education. She was articulate and communicative and was determined that after the birth of the second child she would make a home for both children. The patient's chief complaints, on admission to the hospital, were moods of despondency and frequent crying spells.

At the end of the second week of treatment she reported that the crying spells were less frequent and that her mood had lifted to some extent. No crying spells were reported after the third week. Episodes of despondency persisted, alternating with periods of definite improvement of mood and outlook. Toward the latter part of pregnancy, the patient's outlook had improved to the extent that she was able to devise a realistic and sensible approach to her immediate problems.

CASE 3. (Fair result.) The patient was 15 years of age and in the sixth month of her first pregnancy. At the time of admission she was in the eighth grade in school, had a very poor school record and because of bad behavior had come to the attention of the juvenile authorities. She came from a home that had been disrupted ten years earlier by the death of her father. Two older brothers and her mother worked at menial jobs. With the onset of pregnancy the putative father, an older man who had been attentive to the patient for over a year, disclaimed any interest in her. Her mother alternated between moods of condemnation and sympathy. The patient complained of "lonesomeness," was lethargic in speech and movement, and was overeating.

At the end of the first week of treatment she had made a start toward control of appetite. Her mood seemed significantly improved. In subsequent weeks, however, her improvement seemed limited to bringing her appetite under satisfactory control. There was no improvement in mood beyond that noted after the first week.

CASE 4. (Poor result.) The patient, 21 years of age and in the fourth month of her first pregnancy, was reticent about her background; but it appeared that she had left her home in another city some six months earlier after a protracted quarrel with her mother. She had been living alone since then, working as a waitress. She seemed to have a better-than-average education. Nevertheless, she was not very communicative or sociable and was decidedly listless. Her chief complaints were fatigue and nausea. There was no vomiting.

There was no improvement after a week of treatment. The patient was then given the higher dosage for two weeks, again without improvement. She complained of insomnia and the lower dosage was resumed. Thereupon insomnia disappeared. There was some lessening of fatigue, but this may have been due to some nutritional improvement. At the end of the eighth week, use of the drug preparation was discontinued, the patient having shown no improvement.

DISCUSSION

The encouraging results obtained in this study indicate that the d-amphetamine-amobarbital combination is of definite value in the treatment of symptoms of mild to moderate depression in pregnancy. Bearing in mind, however, that these patients received informal, superficial psychotherapy as well as the medication, the results must be evaluated as the product of two concomitant therapies. Perhaps the most reasonable assumption is that the drug preparation prepared or "conditioned" the patient for greater receptivity to informal psychotherapy; although undoubtedly improvement also occurred as a result of the direct effect on mood. Psychotherapy is not usually a "fast acting" treatment, yet 44 patients showed some improvement by the end of the first week of drug therapy.

Of course, superficial psychotherapy, while possibly tiding patients such as these over a very trying period, cannot be expected to solve their underlying emotional problems. Nor, of course, can the medication substitute for proper psychiatric treatment. As Cattel[2] and others[3,6] have pointed out, many unmarried pregnant women have deeply rooted problems which require intensive psychotherapy. It is quite possible that psychotherapy, particularly in the beginning stages, will be more productive if the d-amphetamine-amobarbital combination is given concomitantly.

The particularly desirable results achieved in depressed, tense, "nervous" women suggests that, for some patients, this preparation may be more appropriate than the widely used tranquilizers which create an attitude of indifferent calm. The d-amphetamine-amobarbital combination seems to enhance initiative at the same time that it lessens tension, thereby producing a mental attitude which enables the patient to face up to and act upon her problems.

The number of lethargic, listless patients in the study was small; even smaller was the number of patients with nausea and vomiting. However, judging from previous experience,[1] it would seem that for these patients d-amphetamine sulfate alone is more effective than the combination. For "jittery," nervous or excitable patients the d-amphetamine-amobarbital combination would seem to be the more effective.

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CASE REPORTS

Chordoma in Siblings

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In HUMAN embryological development[6] the evolution of the notochord can be demonstrated. In all higher vertebrates, the notochord arises in essentially the same manner from Hensen's node, which is a thickened mass of rapidly proliferating cells at the anterior end of the primitive streak. In the most primitive vertebrate groups it develops as a fibrocellular cord, directly ventral to the central nervous system and becomes the chief axial support of the body. In the elasmobranchs (shark family), ringlike cartilaginous vertebra are formed around the notochord and compress it. In the process of evolution, the notochord is further compressed when bony vertebrae replace the cartilaginous vertebrae of the lower forms of life, but, even in the higher mammals, the centra of the vertebrae remain to mark its location and the central portion of the nucleus pulposus of the intervertebral disc is, in its microscopic structure, clearly a notochordal remnant. Its remnants, found in both the centra of the vertebra and in the intervertebral discs, may develop as an invasive malignant tumor (chordoma) and thus become important pathologically.

Neoplasia of the chordal rest tissue is a relatively rare occurrence.[3] The commonest sites are sacrococcygeal and, less frequently, basisphenoid. Very rarely they may occur elsewhere in the spine. Intraspinal and extradural chordomas have been reported[7] and here they produce symptoms of spinal cord tumors. Ordinarily these tumors are extraspinal and have their origin in vertebral rather than disc chordal vestiges.[5] They grow slowly by expansion, ordinarily destroying the bone by an osteolytic process. Occasionally they may incorporate bone. They extend into the retroperitoneal space from their sacrococcygeal origin and into the retropharyngeal area from the basisphenoid nidus. They are more frequently in males than females, occur at any age, but usually in the fifth decade.[1] Their slow growth often occasions symptoms for as long as five years before diagnosis. As the tumor pushes its way into the retroperitoneal space from its sacrococcygeal origin, it often impinges on the bowel or causes bladder symptoms referable to the bladder. It is usually felt as a firm mass behind the rectum. Chordomas are nonencapsulated and what may appear as encapsulation does not truly limit the tumor. They spread by extension and infiltration of surrounding tissue. In a few instances it may be possible to excise them radically but usually complete removal proves impossible[1] and recurrence is the rule rather than the exception.

In gross appearance, a freshly removed chordoma is often much like a chondroma. It is usually pinkish-gray, firm and elastic, although some have a mucinous appearance and are soft in consistency. There may be areas of hemorrhage and necrosis.

Microscopically the tumor grows in cords and sheets of cells. The pattern closely resembles that of notochordal tissue as found in the nucleus pulposus of the intervertebral disc, and the various appearances of chordomas are parallel to the development of the primitive notochord.[2] Individual tumors and tumor areas vary from small cell structure with small nuclei to very large cells with prominent nuclei and nucleoli. These latter large cells predominate in the usual tumor and have a vacuolated or bubbly cytoplasm which is the origin of the term *physaliferous* (or bubble-bearing) cell. Cell boundaries are indistinct and blend with the pale-staining, homogenous mucoid matrix. These features may suggest a colloid carcinoma, and chordomas must be distinguished from them.

The characteristics of chordomas are as follows[4]: (a) formation of intra and extracellular mucus, (b) physaliferous cells, (c) lobular arrangement of cells, (d) vacuolization of nuclei, (e) resemblance to nucleus pulposus.

As previously noted, the tumors usually grow slowly; however, where the microscopic pattern presents the criteria of malignancy (such as bizarre nuclear patterns, hyperchromatism and mitoses), there is rapid growth, invasiveness and metastasis (as in Case 1 herein reported).

REPORTS OF CASES

CASE 1. Beginning about January, 1952, a 52-year-old white housewife noted low backache after falling off a stool onto the floor. This became progressively worse. It was not associated with any change in bowel habits, but the patient did have an

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Submitted November 1, 1957.

8-pound decrease in body weight. She was initially treated by her family physician for arthritis.

In 1947, a hysterectomy and appendectomy had been performed for "fibroids." In 1948, she had had a hemorrhoidectomy.

The patient's mother was 70 and her father 77 years of age and both were living and well. A brother, who was then 46 years of age, was apparently well. A 35-year-old daughter was also healthy. There was no history of cancer, tuberculosis, heart disease or diabetes in the family.

Upon pelvic examination it was noted that a large mass displaced the vagina and rectum anteriorly; the uterus was absent. Rectal examination revealed a mass, approximately 8x5x4 cm., between the rectum and sacrococcyx. This was firm and bulged into the posterior rectal wall and seemed to be fixed to surrounding tissues. Barium enema and sigmoidoscopic examination also showed a large pelvic mass displacing the rectum anteriorly and to the right. In February of 1952, the radiologist reported no definite bony involvement of the lumbar or sacral spine except for increased lordosis.

At laparotomy in March, 1952, a reddish purple, vascular encapsulated pelvic mass about 10 cm. in diameter was observed tightly adherent to the sacrum and coccyx. The entire tumor was not completely removed because of extreme vascularity, bleeding and adherence to surrounding structures. The portion removed weighed 310 gm.

The pathologist reported "a rapidly growing and highly malignant chordoma."

In December of 1952, a partial resection of the sacrum and coccyx was done because of recurrent tumor, microscopically confirmed to be chordoma. On May 25, 1954, two years after the first operation, the patient was admitted for terminal care with evidence of a large abdominal and pelvic mass the size of a full term pregnancy. The left gluteal region was infiltrated with tumor. The diaphragm was displaced upward because of the large intra-abdominal mass. In addition, a mass was noted to be protruding into the rectal and vaginal walls. The patient died of uremia on May 26, 1954.

Pathologist's Report

The abdomen was protuberant and there were nodular protrusions along the lower abdominal scar. The arms, breasts and other tissue, which were not edematous, were wasted and cachectic.

There was no gross pathological change observed in the brain or chest except for pulmonary edema.

Upon section of the abdominal wall it was noted that the nodules in the lower abdominal region were within the wall and were distributed along the line of a previous surgical incision, apparently implants in the tissue. A large tumor, multinodular and massive, protruded from the pelvis, pushing the bladder forward and partially obstructing the bladder neck against the pelvis. The bladder extended in flattened broad fashion up to a point half way to the umbilicus as nearly as the adhesions present would permit. The intestines were thrust forward by neo-

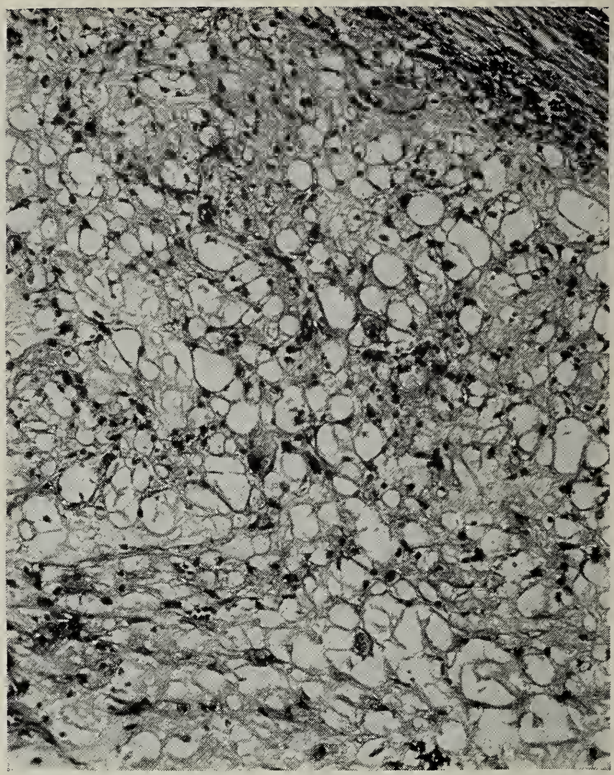

Figure 1.—Low power (×120) view of a field from tumor in Case 1. Note the vacuolation of cytoplasm and nuclei, and criteria of malignancy; that is, bizarre nuclear patterns, hyperchromatism and mitotic cells.

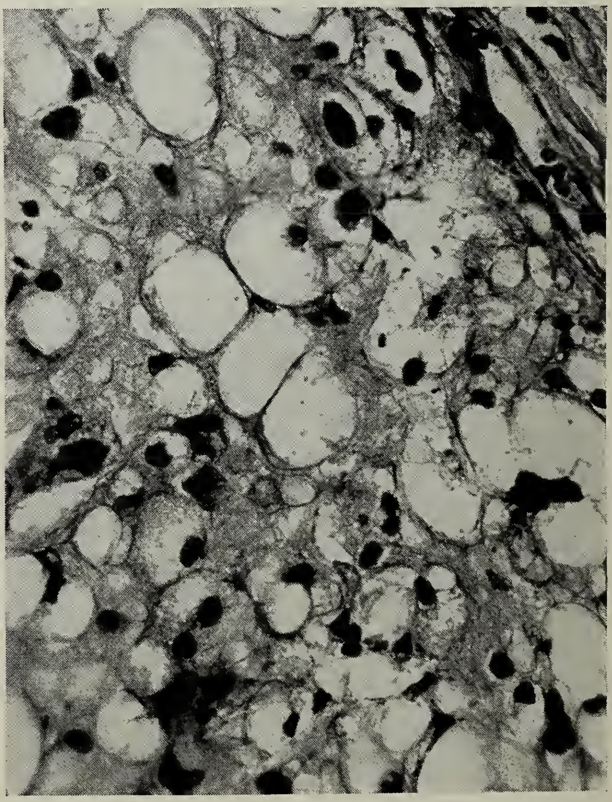

Figure 2.—High power (×500) view of a field from tumor in Case 1. The cellular and nuclear criteria of malignancy are more clearly seen.

plastic growth which extended retroperitoneally along the spinal column up to and beneath the liver. A large mass of neoplastic tissue protruded from the retroperitoneal space, pushing the right kidney upward. This mass was approximately 12 cm. in diameter. On section, the centers of most of these masses of neoplastic tissue were soft and hemorrhagic. Elsewhere, the tumor was not softened and hemorrhagic in appearance, and the cut surface was white or pearly white, occasionally mucoid or cartilaginous in appearance. The liver was filled with metastases of a similar character. Both ureters were obstructed by the outward and upward pressure of the retroperitoneal tumor masses. The ureters on both sides were greatly dilated, being fully 2 cm. in diameter, close to the pelvis of the kidney. Upon removal of the kidneys, pronounced hydronephrosis with renal atrophy was observed on both sides. The adrenal glands and the pancreas were grossly normal, and the gastrointestinal tract, exception for the compression previously described and the partial obstruction of the intestine both large and small, showed no gross abnormality. A tumor nodule about 2 cm. in diameter was observed at the hilus of the spleen but no tumor tissue was found on multiple sections of the splenic tissue.

Summary of gross pathological findings: Chordoma with sacral and pelvic invasion and body destruction, liver metastasis, retroperitoneal extension of chordoma causing partial intestinal obstruction, partial bladder neck obstruction, partial ureteral obstruction with chronic hydronephrosis, and edema—pulmonary, fascial and dependent.

Case 2. A 52-year-old white man, a tiling contractor, brother of the patient in Case 1, said that he had "low back bone pain," which he first noted in December, 1954, as a dull aching pain which he also felt made his bladder empty poorly. These symptoms disappeared completely until July, 1955, when throbbing pain recurred, again localized about an inch or two above the end of the sacrum, starting on the left; and again it was associated with difficulty in urination. The pain kept him from sleeping and it became progressively worse in the course of about a week. Earlier in the year 1955 the patient had noted a significant change in bowel habits—pronounced constipation necessitating daily enemas. There were no other urinary symptoms except for nocturia one time. Libido had been decreased since 1953 but there had been no significant change in sexual activity. It was noted that the pain, which originally began on the left, became more pronounced on the right side and became bilateral.

Upon examination the patient was observed to be well developed and well nourished, and to have no definite physical abnormalities of significance except a firm, smooth, regular, symmetrical 5 to 6 cm. rounded mass firmly attached to the sacrum at its lower end, which was palpated at the end of the examining finger on rectal examination. The mass was tender and nonmovable. The coccyx itself did not seem to be involved and was movable.

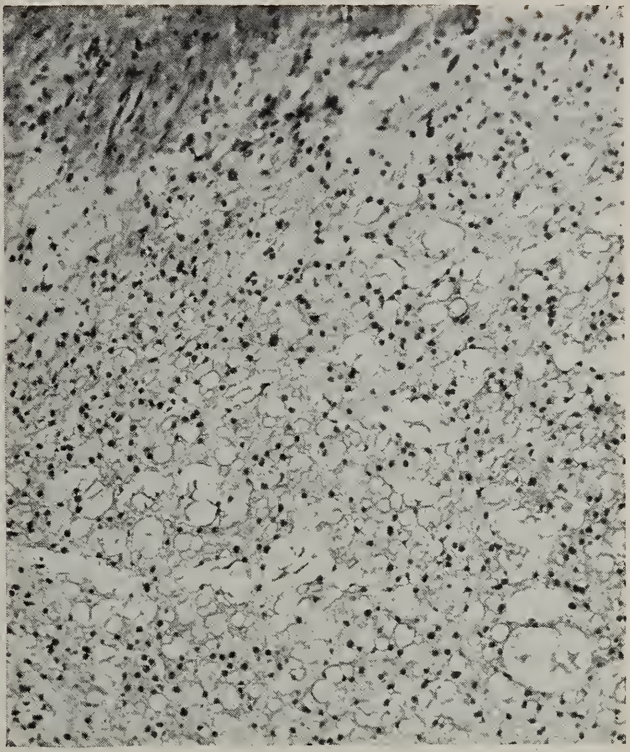
Figure 3.—Low power (×120) view of a field from tumor in Case 2. Note the smaller cells, greater uniformity of size and shape of nuclei than seen in Figures 1 and 2, and the vacuolation of cytoplasm and ground substance.

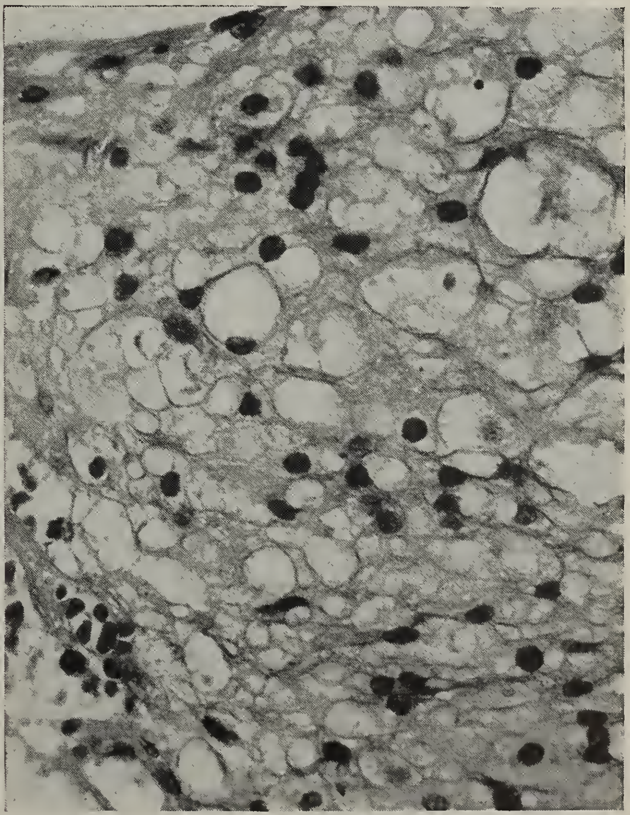
Figure 4.—High power (×500) view of a field from Figure 3. The nuclear characteristics (small size and uniformity in size and shape) as well as the absence of mitotic cells are more clearly seen.

Upon neurological consultation and careful testing, including the saddle areas, no motor changes or reflex changes were observed. Especially detailed sensory evaluation with light touch, pinpoint and vibratory stimuli did not demonstrate deficits.

It was felt that the mass arose from the sacrum and encroached on the posterior rectal wall without actually involving it. Surgical intervention was advised.

On July 29, 1955, with the patient in a prone position, coccygectomy was performed. A tumor was immediately seen at the lowest end of the remaining sacrum. It was bluish gray, had a thin capsule and seemed to be relatively soft and gelatinous. It lay between the ventral surface of the sacrum, which it had partially eroded, and behind the presacral fascia and probably the periosteum. A portion of the lower end of the sacrum was carefully removed. The tumor was not noted to involve any of the sacral nerves nor did it invade into or through the anterior sacral foramina. It seemed to have eroded the ventral surface of the sacrum, the bone being somewhat excavated in this region and softened around it, and had a rather wide adherent base at the level of the fourth sacral foramina. All portions of the tumor were removed and the ventral surface of the sacrum carefully curetted of all possible gross remnants. The tumor was 5x5x3 cm. The patient recovered readily. When last observed, some two years after the operation, he had stopped working because of intractable pain "at the lower end of my spine." Recurrence of tumor was suspected.

SUMMARY

Two cases of chordoma, in siblings, a man and a woman of middle age, are reported. This is the first reported occurrence in siblings. In the woman the tumor recurred locally and spread to the liver. In the man the tumor was in the sacrococcygeal area. It was removed and the patient was well for two years, but at the time of this report there were symptoms of recurrence. In a review of the literature no reports or suggestions were found with regard to a hereditary or genetic basis for the occurrence of chordoma.

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Meckel's Diverticulum Incarcerated in a Femoral Hernia

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THE DIAGNOSIS of strangulation of a herniated diverticulum of the intestine that lies within a greater hernia is usually very difficult to make. The classical signs of strangulation—inflammation, fever and pain—are less severe and occur late in the course of the disease process. Often there is no intestinal obstruction, the fecal stream passing readily since only a diverticular process, not the entire bowel, is incarcerated. The only positive findings are a mass and perhaps tenderness if there is compromised bowel in the sac. Fecal fistula at the site of the hernia was noted by Weinstein[7] in 25 per cent of cases he reviewed in a report published in 1938.

HISTORY

In 1700 Littre[4] published a description of a new form of hernia observed in three cases. The hernial sac described contained a Meckel's diverticulum. This combination now is called Littre's hernia. The process is to be contrasted to a Richter's hernia in which a portion of the bowel wall is strangulated in a hernial sac but no preformed diverticula is involved.[3] The older literature does not differentiate clearly between the two entities, mixed terminology making it difficult now to determine how many cases there were of each.[2] In 1946, Watson collected reports of 211 cases of Littre's hernia from the literature; 30 of them were of the femoral type.

In 1808 Meckel[5] described the ileal diverticulum which bears his name and postulated it was of congenital origin. Meckel's diverticulum is reported to occur in from 0.2 to 2.0 per cent of persons.[1,6] The incidence noted at postmortem is slightly higher than that observed at laparotomy, since the search usually is less intensive in live subjects. Meckel's diverticuli may vary considerably as to size, length and location, but usually the sac projects from the antimesenteric border of the ileum at a point anywhere from 12 to 36 inches proximal to the ileocecal valve. It may be a fibrous tract from the ileum to the umbilicus or it may be patent, and it may or may not have its own mesentery. Meckel's diverticulum may contain ectopic gastric, duodenal or pancreatic tissue

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From the Department of Surgery, Cedars of Lebanon Hospital, Los Angeles 29.

which may cause bleeding or ulceration under certain pathologic conditions. Some 10 to 15 per cent of complications of Meckel's diverticulum are owing to location of the lesion in a hernial sac; and when this phenomena does occur, the hernia is most likely inguinal (50 per cent), umbilical (25 to 30 per cent) or ventral (10 per cent), rather than femoral.

Approximately 5 per cent of all hernias are femoral hernias. They are usually reported three to four times more commonly in females than in males. Approximately 34 per cent of all hernias in females occur in the femoral area, compared with 2 per cent in the male, probably because of the greater proportional width of the pelvis, the consequent greater size of the femoral ring and the tendency of pregnancy to stretch and distend abdominal wall. Femoral hernia is liable to strangulate. Of 1,334 consecutive cases of hernial strangulation reported by Weinstein in 1938, about half were femoral. Zimmerman, reporting in 1953 on a collected series of some 4,600 cases, noted that the hernia was femoral in about 25 per cent and the mortality rate was 20 per cent. This relatively high incidence is not surprising, considering the narrowness and unyielding character of the femoral ring. In most cases the lacunar ligament brings about the constriction. The common type of femoral hernia protrudes through a weakness in the transversalis fascia just above its attachment to the ileopectineal line and lies in the pectineus muscle medial to the femoral sheath. There are other less common variations. The differential diagnosis includes enlarged inguinal lymph nodes, hydrocele of the cord or of the canal of Nuck, varix of the greatest saphenous vein and psoas abscess.

In most cases of femoral hernia there are two operative approaches possible. The subinguinal approach, usually over the hernia protrusion, is not the preferred method because of the difficulty of performing an adequate repair, because of tension on the stitches and the impossibility of securing a ligation flush with the peritoneum. Generally the inguinal approach and Cooper's ligament repair is used. The subinguinal procedure causes less operative shock and is far simpler but the recurrence rate is much higher. The high approach is better if there is need of bowel resection and protection against recurrence as in a young person.

Ingle[2] reported that the incidence of Meckel's diverticulum in a femoral hernia is approximately three times greater in women than in men and that the right side is involved three times more often than the left side. In the following case the patient was a man and the hernia was on the left side.

REPORT OF A CASE

A white male carpenter, 65 years of age, was admitted to the Cedars of Lebanon Hospital for the first time on March 23, 1957, at noon. He gave a history of having noticed a mass in the left groin since 3 o'clock the previous afternoon. The mass, which had first appeared after he had lifted some lumber on the job, was not tender at first, but when it did not disappear in several hours the patient notified a physician. A diagnosis of incarcerated femoral hernia was made and the use of sedatives and hot packs was begun to help induce reduction. The mass did not diminish. The patient had not had nausea or vomiting or abdominal pain. He had passed flatus but not feces since the mass had appeared.

The patient was responsive and well hydrated and did not seem to be in acute distress. The temperature was 98.6°F., the pulse rate was 72, and the respiration rate was 14. The blood pressure was 130/70 mm. of mercury. No abnormalities were noted in the heart or lungs. Upon examination of the abdomen, no tenderness, rigidity or palpable masses were noted. Bowel sounds were active. Just below the left inguinal ligament there was a mass 4 cm. in diameter which was tender to the touch but not hot or red. Neither bowel sounds nor a bruit were heard over the mass. It was not reducible. Normal brown stools were present in the rectum.

The urine was a clear amber color with a specific gravity of 1.015. It contained a trace of albumin but no sugar or acetone. There were 2 to 4 leukocytes per high-power field. The hemoglobin content of the blood was 15 gm. per 100 cc. Leukocytes numbered 7,100 per cu. mm. The platelets appeared normal.

The preoperative diagnosis was incarcerated femoral hernia.

With the patient under spinal anesthesia a left inguinal incision was made with reflection of the tissues of the inferior flap distally over the inguinal ligament. The hernial sac was delineated below the inguinal ligament and was freed and entered. When the sac was opened a small amount of dark sanguinous fluid came out. A piece of small bowel, which was gangrenous, was incarcerated in the femoral ring. To enter the peritoneum, an incision was made superior to the original incision through the external oblique, internal oblique and transversalis muscles and fascias. The sac and its contents were delivered through this opening. It was then apparent that the loop of small bowel contained in the sac was a Littre's hernia of compromised Meckel's diverticulum approximately 6 cm. long, of which the distal three quarters was very dark. The Meckel's diverticulum was excised at its base, a closed technique being used. A Cooper's ligament repair was used to close the femoral ring and the defect in the posterior wall of the inguinal canal.

The patient was discharged on the sixth postoperative day.

Pathologist's Report

A 6x3x1 cm. thin-walled diverticulum with inflammation, focal metaplasia and adhesions on the serosal surface was received. Diagnosis: Meckel's diverticulum, diverticulitis, ileum.

SUMMARY

Incarceration or strangulation of a Meckel's diverticulum in a femoral hernia is rare. It occurs predominantly in women and most often on the right side. In the present case the lesion was on the left and the patient a man. The physical findings are relatively few and late in developing. The treatment of choice is resection of the Meckel's diverticulum with or without a section of small bowel as is necessary. and repair of the defect.

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Acute Intermittent Porphyria

LEO van der REIS, *M.D.*, and
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PORPHYRIA IS A SYNDROME caused by a disturbance in pigment metabolism. Increased formation of porphyrins causes the symptoms. This syndrome and the biochemical characteristics of it have been extensively reviewed.[1,10,11,12,13] Porphyria needs to be differentiated from porphyrinuria, a condition in which increased porphyrin formation is due to some other pathologic process. Patients with gastrointestinal bleeding may have increased amounts of deuteroporphyrin in the stools.[7,8] In pernicious anemia[2,14,15] and sprue the fecal and urinary porphyrin content may be increased. In liver disease and especially cirrhosis, porphyrinuria may be present before urobilinuria is observed.[4,5] Profound porphyrinuria may be the result of reactions to sulfa preparations,[6] anesthetics,[9] dyes[6] and lead,[3] the latter causing pronounced increase in the coproporphyrin III fraction in the urine.

Watson's classification of porphyrias distinguishes:

1. Porphyria with sensitivity to light (congenital, infantile, erythropoietic), which is characterized by the urinary excretion of uroporphyrin I and coproporphyrin I. The absence of porphobilinogen is noteworthy.

2. Intermittent acute porphyria, characterized by abdominal and nervous symptoms. Increased urinary excretion of coproporphyrin III, of uroporphyrin-zinc complex, of porphobilinogen and of porphobilin occurs.

3. Mixed form (cutanea tarda, hepatic porphyria). Photosensitization occurs gradually in adults. Cutaneous blisters of traumatic origin, pigmentation, jaundice, hepatic insufficiency or cirrhosis, abdominal pain as well as nervous symptoms characterize the mixed disease. The urine contains increased amounts of porphyrins I and III.

REPORT OF A CASE

The patient, a poorly nourished 28-year-old white man of British extraction, complained of severe abdominal pains, nausea, vomiting and constipation. He had had similar attacks off and on for several years, most attacks having subsided spontaneously after 12 to 24 hours. On occasion the use of narcotics had been necessary. The patient said no other members of his family had had similar attacks.

On examination the patient appeared rather stuporous, even though he was writhing in pain. The most striking symptomatology was psychiatric in nature. The patient appeared despondent and expressed views of an hebephrenic character. Occasional athetoid movements of all extremities and tonic as well as clonic contractions of muscle groups in the lower extremities and abdominal wall were noted. The skin was pale and clammy, the blood pressure 135/84 mm. of mercury, the pulse 120 and pounding. Unsustained horizontal nystagmus was present.

The abdomen, in striking contrast to the severity of the patient's complaints, did not appear very tender to palpation. There was no rebound tenderness or rigidity. The bowel sounds were quite active over the upper half of the abdomen and were virtually absent over the lower half. There were multiple areas of hyposensitivity and asensitivity of the skin over the anterior wall of the abdomen and extremities.

X-ray films of the chest showed no abnormalities. In roentgenographic examination of the gastrointestinal tract spasm of some sections of the small intestine and proximal part of the colon was noted. The remainder of the bowel appeared distended. Results of examination of the blood were within normal limits. Serum calcium and serum phosphorus content were within normal range. The urine, which was clear and rather brownish, contained large amounts of uroporphyrin and coproporphyrin as well as porphobilinogen.

The patient was given 100 mg. of promazine hy-

Submitted December 10, 1957.

drochloride (Sparine®) intravenously, and the symptoms rapidly abated. Over the next six hours two intramuscular injections of 50 mg. each of the same drug were administered. The patient remained somnolent for approximately 12 hours but was otherwise asymtomatic four hours after treatment was started.

A maintenance dose of promazine hydrochloride, 25 mg. four times a day was prescribed. At last report the patient had remained asymptomatic for a longer period than after any preceding attack and there were no undesirable side effects of the drug.

Erythropoietic porphyria usually occurs in children, more often males, who may have extensive bullous and vesicular lesions of the skin. Hypertrichosis is common. Dark pigmentation of the skin, splenomegaly and hemolytic anemia often are concomitants. Coproporphyrin and uroporphyrin are present in the urine, which has the color quality of port wine. Fluorescence of the normoblasts in the bone marrow can be observed.

In acute intermittent porphyria, which is more common in females, three groups of symptoms occur: Psychiatric, neurologic and gastrointestinal. The psychiatric symptoms may vary a great deal. Hysteria and paranoia as well as schizophrenia have been observed. Apathetic, unpleasant and complaining behavior and a tendency to speak in a whining voice are typical of patients with porphyria. The neurologic manifestations are many and varied; they may be clinically undistinguishable from those of polyneuritis, amyotrophic lateral sclerosis, poliomyelitis and ascending paralysis with respiratory paralysis. Sensory abnormalities also may occur. Early atrophy of the musculature is noteworthy in cases in which paralysis develops.

The abdominal symptoms may be either of sudden or insidious onset. When first examined the patient may be rolling in bed complaining of a severe, colicky abdominal pain, nausea and vomiting. Abdominal distention, intestinal spasm and constipation may be noted. The symptoms may mimic those of a variety of causes of "acute abdomen." However, there is a striking disparity between the severe subjective pain and the relative insensitivity of the abdomen to palpation. In women, in whom attacks often occur a few days before or after menstruation, the clinical symptoms may mimic those of extrauterine pregnancy.

In addition renal, cardiac and hepatic abnormalities may occur. Oliguria (often preceding the attack), albuminuria and acute renal failure have been observed. Tachycardia, extrasystoles and substernal pain are common. Liver function tests may show abnormal thymol turbidity, cephalin flocculation and increased bromsulphthalein retention.

The urine in this form of the disease is usually dark brown due to the presence of porphobilinogen. The color may be accentuated by acidification or heating. In contrast to the erythropoietic type, no fluorescence of the normoblasts can be observed.

The mixed form differs from the acute intermittent type in that cutaneous manifestations, which are accentuated by direct sunlight, are present. The urinary findings are different from those in the acute variety, in that a mixture of porphyrins I and III are present, while only porphyrin III is found in the acute form.

Severe complications such as myocardial infarction, acute pancreatitis, severe anemia and persistent paralysis due to muscle atrophy may occur.

Protection against sunlight and ultraviolet light is of extreme importance in dealing with the erythropoietic and photosensitive forms of the disease. Administration of barbiturates, sulfa preparations and preparations containing heavy metals is contraindicated. Splenectomy is often of some benefit in the congenital type, although complete remission is rarely obtained.

Vitamin B preparations as well as adrenal steroids have been used, but the effects of these drugs have not generally been favorable.

Recently good results without any undesirable effects have been reported[10,11] from the use of chlorpromazine and similar substances.

SUMMARY

A case is presented of a 28-year-old "psychotic" male with severe abdominal pains. A diagnosis of acute intermittent porphyria was made. The patient responded favorably to treatment with promazine hydrochloride.

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For information on preparation of manuscript, see advertising page 2

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EDITORIAL

Man vs. Automobile

THE AUTOMOBILE—man's application of power to the wheel—has attained considerable stature in the past half century.

From the old one-lunger which frightened horses and called for the ingenuity of man to keep it operating 50 years ago, the automobile has grown into a twentieth century monster that demands more parking space, more room on the highway and more sense behind the wheel.

Today we see more and more of the competitive products of Detroit, complete with multiple headlights, tail fins that vie for ostentation and utility and motors that are designed to provide far more horsepower than was dreamed of by the owners of the "horseless carriages" at the turn of the century.

Competition has not been restricted to the Michigan manufacturers in the development of the automobile. More exactly, the competition has been between man and the automobile.

Each year the engineers and designers have strived to give the American buyer something bigger, something more elegant, something more powerful. The result: Larger automobiles, greater passenger capacity, more powerful engines, bigger braking surfaces—and more serious accidents.

Along with these advances in automotive engineering has come an increased call on the highway engineers, the police forces and the public (other drivers) to respect the instruments which our automotive engineers have placed in our hands.

The power of these modern marvels is shown in the 38,700 Americans killed in 1957 in automobile accidents. While theorists rant about the killing power of nuclear bombs, right in our own backyard we kill off more people than a series of H-bombs might claim. We also maim people—2,525,000 of them last year.

We ran down, or ran over, or otherwise killed 7,500 pedestrians in 1957. We killed another 1,330 in collisions between automobiles and railroad trains. Jaywalkers accounted for 2,600 deaths last year.

In case one might want to dismiss some of these truly vital statistics as resulting from obsolete equipment, consider for a moment that more than 95 per cent of the vehicles responsible for these figures were in apparently good operating condition at the time of the crash.

Why have these figures been compiled? Who cares?

The answer to these questions lies in several bodies of public opinion, such as the National Safety Council. Solid citizens throughout the country have seen fit to contribute their time, energy and funds to study these causes of death and injury and to try to work out some better solution.

In addition, the automobile makers are intensely interested. They are acutely aware of their own obligation to make their products something which provides transportation as a major endeavor and something which will minimize the danger to life and limb which uncontrolled horsepower would provide.

These auto makers, especially the major producers of automobiles, have for several years engaged the services of Cornell University in studying the causes and consequences of automobile accidents. From these studies the producers hope to learn how to make their products safer as well as more efficient and more comfortable.

Cornell has established the Cornell University Automotive Crash Injury Research as its vehicle to produce the facts and figures needed by Detroit to cut down the traffic toll. Starting from base studies which were made for federal authorities on airplane crashes, the Cornell researchers have developed methods of testing and analyzing automobile crashes.

Their findings have already had their effect on the designing of automobiles; in the years to come they will doubtless be seen in further developments or refinements in automobile construction and design.

California is one of the current testing areas for the Cornell studies. Various county areas have been selected as testing grounds; nine counties have already been studied and three more went into the overall research at the start of this month.

A single form developed by Cornell researchers provides space for the hospital, the physician and the California Highway Patrol to fill in needed data to describe the circumstances of any accident. The hospital provides information on the time of arrival of accident victims, the tentative diagnosis and the length and nature of treatment provided. The physician gives a diagnosis and outlines the areas and the extent of injuries. The Highway Patrol fills in details on the year, make and model of automobile, the circumstances of the accident, condition of the highway, density of traffic and other factors.

When these details on any given victim of any given accident are compiled and processed through electronic equipment, they contribute to the general knowledge of what kind of injuries may be expected from a given kind of equipment in a given kind of accident on a given kind of highway.

From the preliminary results of these studies we have already seen the development of seat belts, padded instrument panels, safety latches on door locks and depressed hubs on steering-wheel. Each of these developments has proved its value in decreasing the number or the severity of injuries in automobile crashes.

California is now entering into the second year of this study, in company with 15 other states. The series now under way, for a six-month period, will cover Mendocino and Sonoma Counties and the western portion of Riverside County.

Physicians in all areas of this research have been requested to provide the meager information asked by the Cornell researchers. When the final statistics are in, Cornell hopes to have detailed information on some 50,000 cases, taken from a number of states under a wide variety of highway and traffic patterns. Out of this mass of data we may well see motor car developments which will make all of us safer, whether we occupy the driver's seat or another position in an automobile or get sideswiped as pedestrians or innocent bystanders.

The physicians of California have done their part in these vital studies for the past two years. With one more year to go for the completion of basic statistics, it is hoped that all physicians will continue to add their contribution to these records, as a means of making this a safer country for us all.

Introspection

It behooves almost any enterprise now and then to turn introspectively to an examination of its purposes and of how well it serves them.

The purpose of California Medicine is to be the kind of publication its subscribers would like to have it be—the wishes of the subscribers, in general, to point the direction. To learn how close it comes to meeting the wishes of its underwriters and what adjustments in policy or detail might be made, California Medicine is sending a questionnaire to an unselected 10 per cent of the members of the California Medical Association in each of the component county societies.

The questionnaire was developed with the advice of an expert in statistical measurement of opinion and has been approved by the Executive Committee of the Editorial Board and the Council.

The answers, if returned by enough of the members to give an adequate sample, will let the editorial and business staff of your journal know what pleases the subscribers and what does not, whether to use more or less of the kinds of material that are now used, whether to use a different kind of material than that now used, and whether there is enough demand to warrant the extra expense of making your journal dressier.

Those who receive the questionnaire can help themselves and all other members of the C.M.A. by filling it out—which will take only a few minutes—and returning it promptly. Look for it in the mail about now. If you do not receive one, but have something to say that would help make California Medicine a better journal, a separate communication from you would be most welcome. Just address California Medicine Survey, 450 Sutter Street, Room 2000, San Francisco 8.

Editorial Comment . . .

Research by Practicing Physicians

Many physicians associate Medical Research with expensive and intricate equipment installed in a modernistic building like those pictured in the magazines and brochures of the big drug manufacturers.

Those of us engaged in a busy practice generally feel that we ought to leave it to full-time researchers to do the research and that there is little that we can contribute to the advance of medicine. But this is far from the truth. Many discoveries came and certainly others will come through the alertness, knowledge and intuition of physicians in active practice, for clinical research starts with recognition of the pressing problems arising in the physician's examining room. If more physicians in general practice could be convinced that they do have the opportunity and knowledge and ability to do research work of a kind that can be done without too much expense in time or equipment, we would know more about many of the so-called minor illnesses and probably be one step closer to solving the "big problems" of cancer, rheumatism and mental illnesses.

The physician most successful in this field will have certain characteristics. He will not only have superior knowledge in one or several fields of medicine but also originality, flexibility of mind and a sensitivity to the essentials of a problem. He has to have the courage not to accept anything as true unless it has been proven so. And then there is the undefined factor that we may call hunch or inspiration or intuitiveness which even men like Edison and Einstein acknowledged but were unable to explain.

But even a man who has none of those qualifications in large measure can do valuable research work if he will. The first step is to keep his mind alert to the problems in his practice. Soon he will find a subject that arouses his special interest. The next step would be to study the pertinent literature and keep exact and complete records on all patients concerned. Since statistics are usually used in making scientific studies and in reporting them, the general principles—and the shortcomings—of statistical methods should be familiar to even casual investigators.

One kind of research that is being done with increasing frequency by practicing physicians is the testing of new medicines that are about to be marketed by the large drug companies. After the manufacturer has made exhaustive preliminary studies and tests, the medicine in question may be given to carefully selected patients under close supervision and control. If the new drug proves to be of value, several experts in the field continue with the investigation. Finally, if it has proven to be of value for certain diseases and not to have serious side effects, practicing physicians are selected to do the final evaluation, the drug company supplying the drug, literature and record-keeping forms. Similiar studies can be done of drugs that have been in use for a long time if the researcher has reason to believe that they might be useful in another illness than the one for which they were previously used. The drug companies are very much interested in such work and will give the fullest cooperation to serious investigators.

Every physician is actually doing research work by trying various recommended medications for the same illness and finally selecting the one that seems the most effective. If exact records are kept and prove that one specific treatment is much more effective than others, it might be valuable to publish such a finding.

Now, a word of caution. In the field of therapeutics, ethical consideration puts restrictions on research. Our medical associations and our attorneys caution us not to use any other therapy than "one which is accepted as good practice by the physicians of the community." This sounds discouraging to a man in medical research and it must be admitted that a literal interpretation of this rule may hamper medical progress and discourage individuality and originality. We should, however, keep in mind that the reason for these rules and regulations is to protect the patient from harm and to assure a regimen that should never be inferior to one that is generally accepted. But if a physician knew of a chemical that appeared to be promising—for example, in the palliation of metastatic cancer—certainly it could be tried after the usual methods had failed. Steps to protect the investigator legally in such an event are consultation, detailed explanation to the patient and the relatives, a written consent and, in doubtful cases, a discussion of the particular case with an attorney. Generally there will be little danger of any legal involvement if the researcher has been the family physician of the patient for many years and has his full confidence. In no circumstances, of course, should a drug of proven value be withheld from the seriously ill in order to try an experimental medication.

Other forms of research may include new surgical techniques, designing of new instruments, new or simplified laboratory methods and other diagnostic procedures.

Often the most difficult part, which starts when the research has ended, is the presentation of the subject in a concise and well-written paper. And it must be accepted that many an excellent paper is never published because of editorial consideration. Moreover, numerous research projects by individuals and by groups end in failure and disappointment. But even these should be considered as valuable, for research in itself increases intellectual discipline, sharpens the sense of critical observation and promotes the ability to associate facts and to draw proper conclusions. If this state of mind becomes part of the personality, it leads to profounder insight of others and ourselves and thus to a fuller life.

KURT SCHNITZER, M.D.

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California MEDICAL ASSOCIATION

NOTICES & REPORTS

Council Meeting Minutes

431st Meeting

Tentative Draft: Minutes of the 431st Meeting of the Council, San Francisco, St. Francis Hotel, February 8, 1958.

The meeting was called to order by Chairman Lum in the Georgian Room of the St. Francis Hotel, San Francisco, on Saturday, February 8, 1958, at 9:30 a.m.

Roll Call:

Present were President MacDonald, President-Elect West, Speaker Doyle, Vice-Speaker O'Neill, Secretary Daniels, Editor Wilbur and Councilors MacLaggan, Wheeler, Wadsworth, Harrington, McPharlin, Sherman, Lum, Bostick, Teall, Reynolds, Varden, Heron and Hoyt. Absent for cause, Councilors Foster, Pearman and Kirchner.

Present by invitation were Messrs. Hunton, Thomas, Clancy, and Gillette of C.M.A. staff; Messrs. Hassard and Huber of legal counsel; Messrs. Read and Salisbury of the Public Health League of California; county society executive officers Scheuber of Alameda-Contra Costa, Bannister of Orange, Marvin of Riverside, Foster of Sacramento, Donmyer of San Bernardino, Nute of San Diego, Neick of San Francisco, Thompson and Pearce of San Joaquin, Wood of San Mateo, Colvin of Santa Clara; Messrs. Paolini and Wahlberg and Doctors Larsen and Gardenier of California Physicians' Service; Fred O. Field, legal counsel of the Los Angeles County Medical Association; Doctor Marshall Porter, State Director of Mental Hygiene; Doctor Ferrall H. Moore, president of the San Mateo County Medical Society; and Doctors John Rumsey, Malcolm Watts, Dan O. Kilroy, Robert Combs and Malcolm Merrill, state director of Public Health.

A quorum present and acting.

1. *Minutes for Approval:*

Minutes of the 430th meeting of the Council, held January 11 and 12, 1957, in Los Angeles, were presented and, after several amendments, on motion duly made and seconded, were approved.

2. *Membership:*

(a) A report of membership as of February 6, 1958, was presented and ordered filed.

(b) On motion duly made and seconded in each instance, nine members were voted Retired Membership. These were: Lloyd E. Lacey, Alameda-Contra Costa County; Harold N. Brodersen, Fred L. Glascock, William O. Leach, David M. Olkon, Arthur P. Stevenson, John G. Turley, Los Angeles County; Howard H. Dignan, Edward A. Schaper, San Francisco County.

(c) On motion duly made and seconded in each instance, nine applicants were elected to Associate Membership. These were: Benjamin Lieberman, Hamlet C. Pulley, Maurice Schiff, Alameda-Contra Costa County; Louis Lesko, Jr., Olive Lundgren, Los Angeles County; E. E. Simpson, Sacramento County; Raymond H. Brown, Richard M. Gross, Shirley G. Hall, San Francisco County.

(d) On motion duly made and seconded, ten members were granted a reduction in dues because of illness or postgraduate study.

3. *Financial:*

A report of bank balances as of February 6, 1958, was presented and ordered filed.

FRANK A. MacDONALD, M.D.	President
FRANCIS E. WEST, M.D.	President-Elect
JAMES C. DOYLE, M.D.	Speaker
J. NORMAN O'NEILL, M.D.	Vice-Speaker
DONALD D. LUM, M.D.	Council Chairman
ALBERT C. DANIELS, M.D.	Secretary-Treasurer
IVAN C. HERON, M.D.	Chairman, Executive Committee
DWIGHT L. WILBUR, M.D.	Editor
JOHN HUNTON	Executive Secretary

General Office, 450 Sutter Street, San Francisco 8

ED CLANCY	Director of Public Relations

Southern California Office:
2975 Wilshire Boulevard, Los Angeles 5 • DUnkirk 5-2341

4. *Commission on Public Health and Public Agencies:*

Doctor Warren Bostick, chairman of the Commission on Public Health and Public Agencies, presented a request from the State Department of Public Health for cooperation in a follow-up study of cancer cases to involve the assistance of individual physicians. On motion duly made and seconded, it was voted to approve this study.

Doctor Bostick also presented a request for sponsorship by the Association, along with other sponsors, of a food conference scheduled by agricultural and allied groups. On motion duly made and seconded, it was voted to participate and cooperate but not to sponsor the program.

Report was also made on studies under way on antibiotic-resistant organisms and on nalline as an agent for the determination of drug addiction.

Discussion was held on practices involving the Crippled Children's Program and others where a third party is involved. On motion duly made and seconded, it was voted to request the Commission on Medical Services to study this entire field and report back to the Council.

Doctor Bostick also reported that studies were under way in the fields of rehabilitation and policies relative to various health services, reports on which will be made later.

5. *Medical Care for Military Dependents:*

Doctor John Rumsey, chairman of the committee authorized to discuss the "Medicare" program with Army officials, reported on meetings just concluded in Washington and presented the tentative form of contract to cover this program for 1958.

After considerable discussion, it was regularly moved, seconded and voted, that the Council approve the 1958 renewal of the "Medicare" contract; that with the advice of the Commission on Medical Services the Council review and establish its basic policy regarding fee schedule negotiations and contractual relationships involving medical service; that such basic policy be submitted to the following meeting of the House of Delegates for its consideration and approval; and that thereafter all future contracts should conform to the established policy.

6. *C.M.A. Structural Survey:*

Councilor Sherman, chairman of a committee established to review the report and recommendations of the study of the Association made by Robert Heller & Associates, reported on several sections of this study; actions taken in conformity with Doctor Sherman's report included:

1. Annual meetings of county society officers are to be continued as in the past.

2. Minutes or notes on discussions held by the Medical Executives Conference are to be prepared and distributed to members of the Council and to secretaries of county medical societies.

3. The Council shall be the sole policy-making body of the Association during adjournment of the House of Delegates.

4. The Executive Committee shall be abolished.

5. An Advisory Committee for Emergency Action shall be established, to consist of the President, President-Elect, Council Chairman and Speaker, to rule on matters requiring prompt action between meetings of the Council.

6. The Auditing Committee is to continue its present functions, except for modification of present requirements for inspection of all financial items by two of its members, and the name is to be changed to Finance Committee.

7. The position of Director General is to be established, the office to include various duties as outlined by the Sherman committee and the position to be filled when and as an acceptable candidate is located.

8. County societies shall be asked to forward candidates for appointment to the commissions and committees to the chairman of the committee on nominations, and consideration shall be given to rearranging subcommittees under the various commissions.

9. The Council shall recommend to Audio-Digest Foundation the appointment of a general manager when feasible and the reduction of the Board of Trustees to about six or seven members.

10. The Operating Committee of the Physicians' Benevolence Fund, Inc., shall continue its present operations.

11. The Assistant to the Editor of CALIFORNIA MEDICINE shall be made an ex-officio member of the Committee on History and Obituaries.

12. The title of Secretary-Treasurer shall be changed to Secretary and the duties of the Treasurer transferred to the chief administrative officer.

13. Two signatures shall be required on Association checks, as at present; the title Executive Secretary to remain unchanged.

14. A Division of Office Services shall be established in the central office to handle internal office affairs.

15. Changes shall be effected in the dues structure, to provide the payment of one-half the annual dues for Associate Members and for those in the first three years of medical practice and complete remission of dues for members above the age of seventy years or those whose practice ceased temporarily because of illness or absence for postgraduate training.

16. Uniform charts of accounts shall be maintained and monthly summary reports furnished to commissions and committees requesting them.

17. Questions concerning format, content and administration of CALIFORNIA MEDICINE shall be referred to the Executive Committee of the Editorial Board of the journal for consideration and later report to the Council.

18. The Council shall establish policies relative to public relations and transfer such policies to a strong Committee on Public Relations which shall direct and supervise this activity. The Director of Public Relations shall continue to be located in Los Angeles.

19. As office space becomes available, the Physicians' Placement Service shall be expanded under a full-time employee.

The above actions were all taken on motions duly made and seconded. It was also duly moved, seconded and voted that appropriate By-Law amendments be prepared for approval by the Council and submittal to the 1958 House of Delegates.

7. *Commission on Public Policy:*

Doctor Dan O. Kilroy, chairman of the Commission on Public Policy, and Doctor Malcolm Merrill, State Director of Public Health, discussed the need of additional funds in the 1959 State budget to provide for new fees approved for the Crippled Children's Program last year, and Doctor Kilroy asked authority for Doctor Frank J. Cox to appear before a State Senate committee on this subject. On motion duly made and seconded, it was voted to authorize Doctor Cox to make this appearance in support of the increased budget item.

Doctor Kilroy and Doctor Marshall Porter, State Director of Mental Hygiene, also discussed the question of seven state-operated mental health clinics which both speakers proposed be taken over by community mental health clinics under the terms of new legislation; it has been proposed that a period of 18 months, ending June 30, 1959, be allowed for counties to effect this takeover and, on motion duly made and seconded, it was voted to approve this time allowance.

Doctor Kilroy reported that a letter relative to the Forand Bill, now before the U. S. Congress, had been mailed to all members of the Association.

Doctor Kilroy also reported on hearings by interim committees on the subjects of cancer quackery and diploma mills. In regard to the latter subject, it was regularly moved, seconded and voted to request the Governor of California to include this subject in an official call for a special session of the State Legislature in 1958.

8. *Public Welfare Assistance Law:*

Councilor Harrington, chairman of the liaison committee with the State Department of Public Welfare, reported on a meeting with that department, in which certain fee changes had been agreed upon. He also reported that San Diego, Kern, Sacramento and the San Joaquin counties had been selected as areas for a pilot study in the handling of welfare cases without prior authorization from welfare officials. If this requirement can be removed, such action would later be taken in all counties. A communication from the Los Angeles County Medical Association, in which that organization requested to be included in this pilot study, was presented; the association stated its intention to advise its members to withdraw from this program if this request were not met.

Doctor Harrington also reported that the University of California Hospitals in San Francisco were experimenting with welfare cases on a per diem basis, while the Stanford Hospitals were continuing on an itemized charge basis as a control.

Mr. Hassard reported that changes in federal laws would be required to achieve a uniformity in payment for services provided under the welfare program which had been sought earlier.

It was agreed that the Council should study a proposal made by the State Department of Social Welfare for a study of the amount of care given in county hospitals for the indigent and the medically indigent.

On motion duly made and seconded, it was voted to approve the request of a component county society for use of the Association's addressograph list for a mailing to all members on the welfare law.

9. *Amendment to C.M.A. By-Laws:*

Mr. Hunton reported that since the date for Annual Sessions has been advanced two months, it would be advisable to amend the By-Laws to provide that the official count of membership to determine representation in the House of Delegates likewise be advanced two months, to September first of the year preceding the meeting of the House of Delegates. On motion duly made and seconded, it was voted to approve such an amendment for presentation to the House of Delegates.

10. *Liaison with State Bar of California:*

Doctor West reported that the operating rules for governing panels of expert witnesses to be made available to attorneys in medical malpractice cases had been submitted both to the Council and the Board of Governors of the State Bar of California. On motion duly made and seconded, these rules were voted approval.

11. *California Physicians' Service:*

Doctor West suggested that the Council recommend to the Board of Trustees of California Physicians' Service that a committee be named to study the medical needs of the aged. On motion duly made and seconded, this proposal was approved.

12. *State Board of Nurse Examiners:*

A request for appointment of members to confer with the State Board of Nurse Examiners on the evaluation of shortened training courses for nurses was presented by Doctor MacDonald. On motion duly made and seconded, it was voted to nominate Doctors William Kaiser of Oakland and J. Philip Sampson of Santa Monica for appointment to this committee.

13. *Time and Place of Next Meeting:*

The chairman, the Council concurring, announced that the next meeting of the Council would be held in Los Angeles on Sunday, March 9, 1958, following the March 8 meeting of county society officers.

Adjournment:

There being no further business to come before it, the meeting was adjourned at 5:40 p.m.

Donald D. Lum, M.D., *Chairman*
Albert C. Daniels, M.D., *Secretary*

* * *

432nd Meeting

Tentative Draft: Minutes of the 432nd Meeting of the Council, Los Angeles, Ambassador Hotel, March 9, 1958.

The meeting was called to order by Vice-Chairman Heron on Sunday, March 9, 1958, in the Colonial Room of the Ambassador Hotel, Los Angeles, at 9:30 a.m.

Roll Call:

Present were President MacDonald, President-Elect West, Speaker Doyle, Vice-Speaker O'Neill, Secretary Daniels and Councilors MacLaggan, Wheeler, Foster, Wadsworth, Pearman, Harrington, McPharlin, Sherman, Bostick, Teall, Kirchner, Reynolds, Varden, Heron, Hoyt and Rosenow. Absent for cause, Councilor Lum and Editor Wilbur.

A quorum present and acting.

Present by invitation were Messrs. Hunton, Thomas, Clancy, Gillette and Whelan of C.M.A. staff; Messrs. Hassard and Huber of legal counsel; Messrs. Read and Salisbury of the Public Health League of California; county society representatives Scheuber, Geisert, Pettis, Field, Bannister, Marvin, Donmyer, Nute, Neick, Thompson, Donovan and Clark (San Mateo County); Doctors Larsen and Gardenier and Messrs. Paolini, Lyon, Wahlberg and others of California Physicians' Service; Richard Blum, Ph.D.; Doctor Malcolm Merrill, State Director of Public Health; Doctor Marshall Porter, State Director of Mental Hygiene; and Doctors A. A. Morrison, R. S. Kneeshaw, H. G. MacLean, Thomas Rossitto, Robert Combs, Carl M. Hadley, Roberta Fenlon, Hartzell Ray and Dan O. Kilroy.

1. *Minutes for Approval:*

On motion duly made and seconded, minutes of the 431st meeting of the Council, held February 8, 1958, were approved.

2. *Membership:*

(a) A report of membership as of March 6, 1958, was presented and ordered filed.

(b) On motion duly made and seconded in each instance, six applicants were granted Retired Membership. These were: William S. Kiskadden, Thomas Reynold Martin, George W. Moore, Gerald F. Smith, Ralph J. Thompson, Los Angeles County, and Horace F. Pierce, Santa Barbara County.

(c) On motion duly made and seconded in each instance, 14 applicants were voted Associate Membership. These were: R. L. Christensen, Alameda-Contra Costa County; Harry Howard, Marin County; Clem Cravens, Ramona L. Todd, Eunice S. G. Waters, Napa County; Arnold R. Beisser, S. L. Broussalian, Robert M. Colbert, Charles S. Lobel, Los Angeles County; Leon J. Epstein, Sacramento County; George A. Breon, San Diego County; Wallace V. Epstein, Arthur W. Pryde, San Francisco County, and Thomas J. Gray, Santa Clara County.

(d) On motion duly made and seconded, reductions of dues were voted for 31 members because of prolonged illness or postgraduate studies.

3. *Financial:*

(a) A report of bank balances and associated items was presented and ordered filed.

(b) A report of income and expenditures for February and for the eight months ended February 28, 1958, was presented and ordered filed.

4. *Commission on Medical Services:*

(a) Doctor H. Gordon MacLean, chairman of the Commission on Medical Services, reported that the executive committee of the commission had met with trustees of some labor health and welfare funds for a discussion of problems in this field. No major agreements were reached but further meetings may be scheduled. On motion duly made and seconded, this report was accepted.

(b) Doctor Frank J. Cox, chairman of the Committee on Fees, reported that Army representatives now require that certain periods of aftercare be provided under the surgical fee in "Medicare" cases and suggested that, to evaluate this requirement, the committee which drew up the Relative Value Studies be reactivated. On motion duly made and seconded, this suggestion was approved for this particular purpose and for determining a suitable method of providing for payment of a fee to two or more physicians who might be engaged in the same case.

(c) On the recommendation of the commission, and on motion duly made and seconded, the Council voted to reaffirm its earlier decision that, in vocational rehabilitation cases, opposition be continued against different fees for the same service.

5. *State Department of Public Health:*

Doctor Malcolm Merrill, State Director of Public Health, reported that representatives of his department, of hospitals and of medicine have met to consider the problem of staphylococcus infections in hospitals and that regional meetings on this subject are being planned.

Doctor Merrill also reported on problems presented by the Highway Patrol in interpreting new dangerous drugs regulations applicable to drivers and of the Motor Vehicle Department in the medical aspects of driver licensing.

6. *State Department of Mental Hygiene:*

Doctor Marshall Porter, State Director of Mental Hygiene, reported that hearings had been held by a State Senate committee on the continuation of seven mental hygiene clinics now operated by the state which his department believes should be converted to community control. At present, funds for continued state operation are provided in the state budget now under consideration.

7. *A.M.A. Meeting:*

Doctor Sherman reported that the cost of cooperating with the American Medical Association in staging its 1958 meeting in San Francisco would total about $12,000. On motion duly made and seconded, the Council reaffirmed its earlier decision to offer this cooperation and, by a three-fourths vote, approved the appropriation of this amount.

8. *Committee on Scientific Work:*

Doctor Daniels, as chairman of the Committee on Scientific Work, presented a list of guests and nonmembers scheduled to participate in the 1958 Annual Session scientific program. On motion duly made and seconded, this list was approved.

9. *Woman's Auxiliary:*

On motion duly made and seconded, it was voted to increase the annual appropriation to the Woman's Auxiliary by $250 to assist in its annual meeting.

10. *Medical Review and Advisory Board:*

Doctor Carl Hadley, chairman of the Medical Review and Advisory Board, reported that a pre-test distribution of a publication on the causes of medical malpractice suits had shown a great interest by those receiving it. On motion duly made and seconded, it was voted to distribute this publication to the entire membership.

Doctor Hadley also reported that statistical studies were continuing and that further report would be made on them.

Richard Blum, Ph.D., psychological consultant, reported that studies were continuing on hospitals and jurors and that additional work was going on in the field of testing patient cooperation. Dr. Blum also stated that postgraduate courses in malpractice prevention had been set up, that he was working with medical schools in developing undergraduate courses in this field, and that conferences were being held with some county medical societies on the malpractice portions of their courses of indoctrination of new members.

11. *Request for Additional Council Reports:*

A communication from a county medical society, requesting that the Council give a detailed report on its action on resolutions referred to it by the House of Delegates, was read. On motion duly made and seconded, it was voted to present a supplementary report to the House of Delegates on this subject.

12. *Amendments to By-Laws:*

Amendments to the By-Laws required to effectuate Council decisions on operations and structure of the Association were reviewed. On motion duly made and seconded, it was voted to direct the chairman to introduce these proposed amendments into the 1958 House of Delegates.

13. *Committee on Legislation:*

Legal counsel Hassard presented a request from the California Hospital Association for a reevaluation of the requirements for foreign graduates to gain approval to serve as interns and residents in California hospitals, especially in view of the opening of offices by a new organization, the Educational Council for Foreign Medical Graduates, which proposes to screen such graduates as to their training and acceptability for hospital appointments in this country. On motion duly made and seconded, it was voted to ascertain the views of the State Board of Medical Examiners on this subject and to secure additional information on the Educational Council for Foreign Medical Graduates.

Mr. Hassard and Doctor Dan O. Kilroy, chairman of the Committee on Legislation, reported that "diploma mill" legislation (AB 6) has been introduced into the current legislative special session, to establish a system of reporting on courses, faculty members and other items by all institutions purporting to issue diplomas in any course of learning above the secondary grades. Such reporting would be to the State Superintendent of Public Instruction under the Education Code.

Mr. Hassard also reported that a committee of representatives of hospital, medical and county organizations was being established to review the making of contracts by county boards of supervisors with private hospitals for the care of county wards. On motion duly made and seconded, it was voted to authorize the chairman of the Council to nominate two members for appointment to this advisory committee.

14. *Commission on Public Health and Public Agencies:*

(a) Doctor Warren Bostick, chairman of the Commission on Public Health and Public Agencies, reported that the Committee on State Medical Services had met to consider proposed rehabilitation programs and urged that county societies be informed on this subject. On motion duly made and seconded, it was voted to request the county societies to activate their rehabilitation committees without delay.

(b) Doctor Bostick also reported on discussions reported earlier by Doctor Malcolm Merrill on staphylococcus infections in hospitals. On motion duly made and seconded, it was voted to authorize the commission to disseminate information to hospitals and their staffs on this subject.

(c) Inasmuch as public supplies of poliomyelitis vaccine are now exhausted, it was regularly moved, seconded and voted that physicians be encouraged to carry on a program of securing the vaccination of their patients under age 40.

(d) Doctor Bostick discussed the efforts of some hospitals to secure a system under which physicians providing services under the Crippled Children's Act would be compensated on a direct billing basis, rather than as a part of a per diem payment to the hospital. It was suggested that the Committee on Fees consider this subject in the near future in an effort to establish a basis for the determination of separate billing procedures. On motion duly made and seconded, it was voted to refer this matter to the Commission on Medical Services and its Committee on Fees, which would work with a committee from the California Hospital Association and transmit its recommendations to the State Department of Public Health.

15. *Committee on Nominations:*

Doctor Bostick, as chairman of the Committee on Nominations, submitted a list of commission and committee nominations prepared by his committee. The report also contained a suggested realignment of committees under the overlying commissions; on motion duly made and seconded, the committee realignment was approved and the secretary instructed to prepare suitable By-Law amendments to effectuate this suggestion.

16. *Public Welfare Assistance Law:*

Doctor West presented a draft of a letter which he proposed be mailed to all Association members by the Council, relative to the position and attitude of the Council on the Public Welfare Assistance Law. On motion duly made and seconded, the sending of this letter was approved.

17. *Legal Counsel:*

On recommendation of the Executive Committee, it was regularly moved, seconded and voted that the retainer fee paid to legal counsel be established at $18,000 annually.

18. *Public Relations:*

Ed Clancy, Director of Public Relations, reported that a poll taken of the physicians attending the annual conference of county society officers on March 8 had indicated that all but one of the respondents reported they read *C.M.A. Newsletter* regularly and approved its content and method of presentation of news. Mr. Clancy also reported that the American Medical Association will inaugurate a tabloid form of newspaper for its members. He also reported on plans for meetings of medical students, interns and residents.

19. *Time and Place of Next Meeting:*

It was agreed that the next meeting of the Council would be held in San Francisco on Saturday, April 12, 1958.

Adjournment:

There being no further business to come before it, the meeting was adjourned at 6:30 p.m.

IVAN C. HERON, M.D., *Vice-Chairman*
ALBERT C. DANIELS, M.D., *Secretary*

In Memoriam

Baltimore, Louis. Died in Los Angeles, March 14, 1958, aged 58, of coronary thrombosis. Graduate of Stanford University School of Medicine, Stanford-San Francisco, 1926. Licensed in California in 1926. Doctor Baltimore was a member of the Los Angeles County Medical Association.

✤

Chaffin, Rafe C. Died in Los Angeles, March 23, 1958, aged 75, of heart disease. Graduate of the University of Southern California, Los Angeles, 1907. Licensed in California in 1907. Doctor Chaffin was a member of the Los Angeles County Medical Association.

✤

Chamberlain, Ben H. Died March 24, 1958, aged 77. Graduate of the State University of Iowa College of Medicine, Iowa City, 1903. Licensed in California in 1924. Doctor Chamberlain was a member of the Los Angeles County Medical Association.

✤

Gerlough, Robert Joseph. Died in Palo Alto, March 23, 1958, aged 65. Graduate of the General Medical College, Chicago, 1924. Licensed in California in 1928. Doctor Gerlough was a member of the San Mateo County Medical Society.

✤

King, Ernest Harold. Died March 25, 1958, aged 67. Graduate of Jefferson Medical College of Philadelphia in 1914. Licensed in California in 1921. Doctor King was a retired member of the Los Angeles County Medical Association and the California Medical Association, and an associate member of the American Medical Association.

✤

Kolb, Harrison John. Died in Oakland, March 20, 1958, aged 52, of hemorrhage from esophageal varices and hepatic coma due to cirrhosis of the liver. Graduate of the University of California School of Medicine, Berkeley-San Francisco, 1932. Licensed in California in 1932. Doctor Kolb was a member of the Alameda-Contra Costa Medical Association.

✤

McCann, Neal Joseph. Died in Redondo Beach, March 10, 1958, aged 58. Graduate of Stritch School of Medicine of Loyola, Chicago, 1928. Licensed in California in 1949. Doctor McCann was a member of the Los Angeles County Medical Association.

McDonald, John. Died in Crawfordsville, Indiana, March 28, 1958, aged 67. Graduate of the College of Physicians and Surgeons of San Francisco, 1921. Licensed in California in 1921. Doctor McDonald was a member of the San Francisco Medical Society.

✤

O'Connor, Loren J. Died December 24, 1957, in Menlo Park, aged 55, of myocarditis. Graduate of the St. Louis University School of Medicine, St. Louis, Missouri, 1926. Licensed in California in 1952. Doctor O'Connor was an associate member of the Santa Clara County Medical Society.

✤

Olkon, David M. Died January 29, 1958, aged 80. Graduate of the University of Illinois College of Medicine, 1908. Licensed in California in 1945. Doctor Olkon was a retired member of the Los Angeles County Medical Association and the California Medical Association, and an associate member of the American Medical Association.

✤

Parkin, Victor. Died March 19, 1958, aged 78. Graduate of Hahnemann Medical College of the Pacific, San Francisco, 1912. Licensed in California in 1912. Doctor Parkin was a member of the Los Angeles County Medical Association.

✤

Roberts, Jay G. Died in Pomona, February 21, 1958, aged 83. Graduate of Rush Medical College, Chicago, 1899. Licensed in California in 1927. Doctor Roberts was a member of the Los Angeles County Medical Association.

✤

Stark, Leander William. Died March 25, 1958, aged 66. Graduate of the College of Physicians and Surgeons, Los Angeles, 1919. Licensed in California in 1919. Doctor Stark was a retired member of the Los Angeles County Medical Association and the California Medical Association, and an associate member of the American Medical Association.

✤

Wilhite, David Walter, Jr. Died March 9, 1958, aged 32. Graduate of the University of Southern California School of Medicine, Los Angeles, 1949. Licensed in California in 1949. Doctor Wilhite was a member of the San Diego Medical Society.

WOMAN'S AUXILIARY
TO THE CALIFORNIA MEDICAL ASSOCIATION

Report of the President

With a membership of 6,602,* 34 auxiliaries and seven branches, the Woman's Auxiliary to the California Medical Association is the largest in the nation. There still remains a few county medical societies unconvinced of the need for an auxiliary.

On the national and state level the auxiliary is recognized as a working unit of the association; on the county level a greater awareness and more appreciation of what the auxiliary is doing is needed. Those county societies employing the talents of the auxiliary have found competent and enthusiastic assistance. We must recognize that physicians' wives play a prominent role in the life of the community, and one of our purposes is to help the public at large understand the functions, policies and aims of the medical profession. We know that some of the best public relations is done when physicians' wives serve on health boards in their communities. Our entire program is geared to good public relations.

I wonder how many active members of the county societies know the name of the president of their county auxiliary, or how many know the projects of the auxiliary, or how many have asked her to write an article for the local bulletin?

Dr. David B. Allman, president of the American Medical Association, in a recent article said: "I feel very strongly that one of the primary responsibilities of the medical profession is to evaluate the areas of service where the auxiliary talents can best be utilized. . . . In all these endeavors I know the auxiliary leaders welcome training and supervision. In most cases this must come from the medical profession's own leaders who are familiar with medicine's needs and the policies determining these needs. But it is equally important for the medical profession to realize that the auxiliary, too, has something vital to offer—competent and enthusiastic assistance."

Are you aware of our vast nurse recruitment program? One of our primary projects is to supply up-to-date information to high school students about nursing as a career. Nursing has changed considerably since many of you and I were students in a hospital. We have licensed vocational nurses; the three, four and five-year programs; and, most recently, with the passage of Senate Bill 508, the two-year program.

We establish Future Nurse Clubs, and these are the foundation of the recruitment program. Today there are over 225 such clubs, 202 of them directly sponsored by the medical auxiliaries. Some of them are in your community. To date, we have over 9,000 members in these clubs, including over 200 boys. Physicians' wives are aware of the nursing shortage and aware, too, that our young people must be told of the changes taking place in the nursing profession.

County auxiliaries are the largest single group in California awarding nursing scholarships. Last year the auxiliaries awarded and administered over $15,000 to students; and loans to 28 students amounted to $4,486.

Another accomplishment is our "Folio on Recruitment," supplying basic criteria on recruitment of health personnel. It is being used by other states and many of our procedures are in demand by other health agencies throughout the United States.

Through our GEMS program (Good Emergency Mother Substitutes) we teach teenagers safety methods in baby sitting. Safety and child care are so interwoven that education on how to care for children must include education in safe practices of both the sitter and the child.

Our members are constantly alerted through our legislative chairman of any legislation affecting medicine, whether it be on the national scene, state or county level. This year the work of legislation has been primarily on the Forand Bill. In this we have sought to educate our members and to ask for their cooperation in writing their senators and congressmen.

We act as your salesmen for *Today's Health.* Are you aware that it has been revamped with new personnel, new ideas and a new editorial approach? Are you aware that there are over 170,000 physician members of the A.M.A., but less than one-third of this membership subscribe to their own publication? The day of the uninformed patient is past. Your magazine, in your office, can provide your patients with the most accurate medical facts available to them today.

This year we are contributing $2,439* to Physicians' Benevolence. There is still considerable misunderstanding regarding this fund. Basically this misunderstanding again goes back to the county level; the physicians themselves are unaware of its purposes and operations.

No one is more cognizant of the cost of a medical education than the physician and his family. This year our check to the American Medical Education Foundation is $3,454.60.*

An innovation this past year has been the district meeting. District councilors, presidents and presidents-elect and branch chairmen meet to exchange ideas, to become acquainted and to learn.

Our publication *Courier* is still the outstanding auxiliary news bulletin in the United States. Each month through California Medicine you have the opportunity to familiarize yourself with our program, with our many methods of serving American Medicine. We are a working service group, and health is our concern. Our many accomplishments take place at the county level, it is here the fresh and imaginative ideas are born; it is here we need guidance and direction.

The president and the board of directors of the Woman's Auxiliary wish to thank the Advisory Board and the staff at 450 Sutter Street for their assistance throughout the year. I personally wish to thank Bob Thomas for his diligent efforts and support during the past year, and for the many other years of his friendship and counsel; and President Frank A. MacDonald for his guidance, counsel and encouragement. We in the auxiliary take pride in our achievements. We hope that each of you will, too.

Mrs. Leonard D. Offield
President, Woman's Auxiliary to the California Medical Association

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*April 12, 1958.

INFORMATION

Campaign for Poliomyelitis Inoculation

POINTING OUT that more than 48 million Americans under age 40 still have not received even a first inoculation with Salk poliomyelitis vaccine, Dr. Julian P. Price, chairman of the American Medical Association Committee on Poliomyelitis has urged that physicians throughout the nation support and participate in community immunization campaigns. Dr. Price made the appeal in a letter to editors containing information on two important developments in the A.M.A.'s poliomyelitis inoculation campaign—the fourth shot question and a new Advertising Council promotional campaign. The letter follows:

"*Fourth shots are not considered necessary at this time.* This was the consensus of Surgeon General Burney's poliomyelitis advisory committee in Washington, March 21. Representatives of the A.M.A., the American Academy of Pediatrics, the National Foundation for Infantile Paralysis, public health departments and others agreed that the present three-dose schedule provides ample protection for the time being. Individual physicians may decide to issue fourth dose when local outbreaks occur or when a patient is traveling to a place where poliomyelitis incidence is high. In such cases, the fourth dose need not be given sooner than a year after the third. The decision to administer an additional dose, the committee felt, should be made by the individual physician.

"Materials for a new Advertising Council poliomyelitis inoculation promotion drive are being sent directly to newspapers and radio and TV stations to be run at their good will. If you are planning a local inoculation drive or a continuing educational program this spring, *a call on the local editor or station program director will help insure their use of the Advertising Council materials.* These people are usually happy to donate time and space to public service advertising if they are aware of local interest and support.

"Last year, many medical societies found that group inoculations—as one phase of local programs—helped immunize whole communities quickly, efficiently and thoroughly. By using this technique many societies finished up the job in a matter of days. Group clinics in almost every case boosted private office inoculations, earned excellent cooperation from volunteer agencies and quickly put the local poliomyelitis situation in the realm of routine vaccinations. For those societies planning clinics for the pre-poliomyelitis season, a handbook showing how some societies set up group programs is available.

"Public emotion has run high on the poliomyelitis inoculation problem, irritating some physicians to the point of exasperation. In spite of this feeling, the medical profession has assumed the leadership in the great majority of inoculation campaigns across the country. Many physicians write that they are enthusiastically backing up the poliomyelitis drive. Let's keep in mind one thing: As long as it is in our power to protect our patients from a disease—in this case poliomyelitis—it is our duty to see that they get that protection. There are currently 48.5 million Americans who still need to start their Salk series."

In a handbook prepared for guidance of community campaigns to promote poliomyelitis immunization, two such programs already successfully carried forward in California are briefly described:

> *San Diego*—Dollar clinics were spearheaded by the county medical society which purchased the vaccine. City and county health departments furnished needles and syringes. Other equipment items were purchased from the $1 fee. Clinics provided 72,000 shots from January through March.
>
> *Ventura*—Dollar clinics sponsored by the County Medical Society and Junior Chamber of Commerce. Admission by ticket costing $1. Two clinics held a month apart provided 16,000 shots. Clinics were staffed by volunteer physicians. Health department furnished vaccine, needles, syringes.

Group inoculation centers in all parts of the country have proved increasingly effective in bringing large number of adults together in the shortest possible time, the handbook noted, continuing:

"They generated enthusiasm, conquered apathy and general procrastination; they overcame the often personal, too often mistaken adult notion that "polio can't strike me"; and they solved the economic problem for many parents who felt they could not afford to have their families, particularly if they were large ones, vaccinated at even minimal office fees.

"Evening hours at group inoculation centers proved generally more convenient for:

"1. Housewives who could not spare daytime hours away from home;

"2. Young adults who could not take time off from work or school;

"3. Working fathers who appreciated the chance to go home from work, load the family car with wife and children, sometimes pick up neighbors, drive them all off to the inoculation center and then back home again;

"4. Professional personnel who volunteered their time as a community service.

"Wherever group inoculations or clinics were held, private physicians found office calls for vaccination appointments greatly increased during and after the communitywide program. Far from causing physicians to lose fees, clinics and the attendant publicity multiplied the number of persons who came to physicians' offices for injections at regular fees."

For Your Patients—

About the Cost of Good Medical Care...

While I know you understand that I, as your personal physician, am not in complete control of all medical care costs, I still would like to emphasize a few facts:

From your own experience you know that not-so-serious cases usually involve nothing more than the moderate expense of home or office visits and medication.

It is when serious illnesses or accidents require hospitalization that we may run into financial problems. Hospital charges, special nurses, drugs and appliances are all factors over which I have no *direct control.*

That is why it is my sincere hope that, should the need ever arise, you'll look upon me not only as your personal physician but also as a sort of "health engineer." In that capacity I am at your service to assist you in making arrangements for the best of medical care on the most reasonable financial basis possible.

I take those precautions when I am ill or when a member of my family requires extensive care. The same services are available to you.

Sincerely yours,

______________________________, M.D.

MESSAGE NO. 6. Postcard size, single fold leaflets, you to fill in signature. Available in any quantity, at no charge as another service to CMA members. Please order by Message No. from CMA, PR Dept., 450 Sutter, San Francisco.

NEWS & NOTES

NATIONAL · STATE · COUNTY

LOS ANGELES

At a regional meeting of President Eisenhower's Committee on Employment of the Physically Handicapped, held recently at Berkeley, **Dr. A. C. Remington** of Los Angeles was cited for "exceptional contributions in advancing the employment of the physically handicapped."

Dr. Remington is medical director of the Garrett Corporation's AiResearch Manufacturing Division. In accepting the award, Dr. Remington said, "It is my special hope that such an award as this will serve to increase the interest of physicians everywhere to effectively help motivate the handicapped, and then assist industry with their knowledge of their particular patients so that handicapped individuals can be usefully employed. In my own community, there is hardly a member of our medical society who has not assisted us in this manner."

SACRAMENTO

Dr. John G. Walsh of Sacramento was elected chairman of the Board of the American Academy of General Practice at the recent tenth annual assembly of the organization in Dallas. Dr. Walsh's term on the board expires in 1959.

SAN FRANCISCO

The American Medical Golfing Association will hold its annual **golf tournament** in conjunction with the American Medical Association convention on June 23, 1958, at the Olympic Lakeside Golf and Country Club, San Francisco. The day will include "golf, luncheon, banquet, and a prize for everyone," the announcement said. "We have left no stone unturned to assure you the very best." Tee off time is 8 a.m. to 2 p.m. Information may be obtained from James J. Leary, M.D., 450 Sutter Street, San Francisco.

SANTA CLARA

A medical symposia on **hematology and tissue transplantation** will be presented Saturday, May 17, by the Palo Alto Medical Clinic and the Palo Alto Medical Research Foundation to celebrate the opening of new research facilities by the Foundation. The hematology conference will begin at 9 a.m. and continue to noon, and the one on transplantation will begin at 2 o'clock and continue until 4:30, when ceremonies dedicating the new facilities will begin. At 5 o'clock the laboratories will be open for inspection.

GENERAL

At the eighth annual meeting of the **California Society of Plastic Surgeons** held in Del Monte in March, the following officers were elected for the coming year: President, Dr. Gerald H. Gray, Oakland; vice-president, Dr. George V. Webster, Pasadena; historian, Dr. James B. Johnson, Beverly Hills; secretary-treasurer, Richard A. Shepard, Oakland.

Schering Corporation has announced that as part of its continuing audio-educational grant program for resident physicians and interns, it is sponsoring 200 one-year **subscriptions to "Audio Digest,"** a service consisting of tape recordings of important medical articles, clinical reviews and lectures, for teaching hospitals in the United States.

Produced by Audio Digest Foundation, a nonprofit subsidiary of the California Medical Association, each tape contains two half-hour sessions and can be played by individuals or to groups at the convenience of the listener.

The new educational service features lectures by prominent medical men, each one usually delivered in the author's own voice. The lecturers serve without pay to the Audio Digest Foundation. All revenue over the cost of production and distribution is contributed to the nation's 79 medical schools through the American Medical Education Foundation.

* * *

The American Physicians Fellowship, Inc., for the Israel Medical Association is sponsoring an all-inclusive **tour to Israel** for the Fourth World Medical Assembly of the Israel Medical Association, to be held in Tel Aviv, Haifa, Jerusalem, August 12 to 24, 1958. The tour group will depart from New York via El Al Israel Airlines on August 9, and will leave Israel on August 24. Further details may be obtained from American Physicians Fellowship Inc., 1330 Beacon Street, Brookline 46, Massachusetts.

POSTGRADUATE EDUCATION NOTICES

THIS BULLETIN of the dates of postgraduate education programs and the meetings of various medical organizations in California is supplied by the Committee on Postgraduate Activities of the California Medical Association. In order that they may be listed here, please send communications relating to your future medical or surgical programs to: Mrs. Margaret H. Griffith, Director, Postgraduate Activities, California Medical Association, 2975 Wilshire Boulevard, Los Angeles 5.

UNIVERSITY OF CALIFORNIA AT LOS ANGELES

Collagen Diseases. Friday and Saturday, May 23 and 24. Nine hours. Fee: $35.00.

Proctology (enrollment limited for morning and afternoon—unlimited for afternoon lecture). Wednesday, May 28. Six hours. $40.00 for all day, $10.00 afternoon.

Emotional Problems in Office Practice (University of California Residential Conference Center, Lake Arrowhead). (Enrollment limited.) Thursday through Saturday, June 5 to 7. Sixteen hours. Fee: $150.00 (including room and meals).

Seventh Annual Symposium on Medical Technology. Saturday and Sunday, June 14 and 15. Twelve hours. Fee: $20.00.

Techniques of Hypnosis (enrollment limited). Monday through Wednesday, June 16 to 18. Fifteen hours. Fee: $65.00.

Advanced Techniques and Application of Hypnosis (enrollment limited). Wednesday through Friday, June 18 to 20. Fifteen hours. Fee: $110.00.

Public Health Practices: Contributions of the Behavioral Sciences to Public Health Medicine (enrollment limited). Wednesday, June 18 to July 23. Thirty-six hours.*

Dissection of the Thorax, Abdomen and Pelvis (enrollment limited to 32). Friday and Saturday, June 27 and 28. Twelve hours. Fee: $125.00.

Obstetrics and Gynecology. Thursday through Saturday, July 17 through July 19. Sixteen hours.*

Techniques of Surgery. Monday through Friday (limited to 14), July 28 to August 1. Forty hours: Fee: $500.00.

Internal Medicine (at University of California Residential Conference Center, Lake Arrowhead), Wednesday through Saturday, August 20 to 23. Sixteen hours.*

Anesthesiology. Wednesday through Friday, August 27 through August 29. Sixteen hours. Fee: $50.00.

Contact: Thomas H. Sternberg, M.D., Assistant Dean for Postgraduate Medical Education, U.C.L.A., Los Angeles 24. BRadshaw 2-8911, Ext. 202.

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

Current Advances in Laboratory Procedures (for Technologists). Saturday and Sunday, May 17 and 18. Eleven hours. Fee: $15.00.

Orthopedic Surgery and Fractures. Friday to Sunday, May 23 to 25. Twenty hours. Fee: $50.00.

Ear-Nose-Throat. Friday and Saturday, June 6 and 7. Fourteen hours. Fee: $40.00.

Fundamental Principles of Radioactivity and the Diagnostic and Therapeutic Uses of Radioisotopes. Two or three month course limited to one enrollee per month.*

Contact: Seymour M. Farber, M.D., Head, Postgraduate Instruction, Office of Medical Extension, University of California Medical Center, San Francisco 22. MOntrose 4-3600, Ext. 665.

STANFORD UNIVERSITY SCHOOL OF MEDICINE

Morning Clinical Conferences, each Monday, Room 515. *Contact:* D. H. Pischel, M.D., Professor, Division of Ophthalmology, Stanford University School of Medicine, 2398 Sacramento St., San Francisco 15.

UNIVERSITY OF SOUTHERN CALIFORNIA, LOS ANGELES

Cardiac Resuscitation. Sponsored by the Los Angeles County Heart Association each Wednesday throughout the year, 4 to 6 p.m., USC Medical Research Building, Room 211, 2025 Zonal Avenue. Residents and interns of Los Angeles County, and all armed forces medical personnel admitted without fee. Tuition for all other physicians $30.00. (Each session all-inclusive.)

Basic Home Course in Electrocardiography. One year Postgraduate Series, electrocardiogram interpretation by mail. Physicians may register at any time and receive all 52 issues. Fifty-two weeks. Fee: $100.00.

Advance Home Course in Electrocardiography. One year postgraduate series, electrocardiogram interpretation by mail. Fifty-two issues: $85.00. Physicians may register at any time.

Office Orthopedics in General Practice. Designed to be of value to the physician in general practice. May 23 to 25, Hotel Statler, Los Angeles, 9 to 5 each day. Fee: $75.00.

Special Announcement: From August 5 to August 21, 1958, the University of Southern California School of Medicine will hold a postgraduate course in Honolulu and on board the *S.S. Matsonia.* The course will center around actual case histories, which will be used to emphasize diagnostic and therapeutic features.

Contact: Phil R. Manning, M.D., Director, Postgraduate Division, University of Southern California School of Medicine, 2025 Zonal Avenue, Los Angeles 33. CApital 5-1511.

COLLEGE OF MEDICAL EVANGELISTS

Audio-Visual Postgraduate Refresher Courses. Courses are made up of four or more half-hour lectures each, recorded on hi-fi magnetic tape and illustrated by 35-mm. filmstrips or slides in full color, and adapted for use on any standard tape recorder and filmstrip or slide projector, automatic or manual.

Contact: Paul D. Foster, M.D., chairman, Committee on Audio-Visual Courses, College of Medical Evangelists School of Medicine, 316 North Bailey St., Los Angeles 33.

* * *

Audio Digest Foundation, a nonprofit subsidiary of the C.M.A., now offers (on a subscription basis) a series of hour-long tape recordings designed to keep the physician abreast of current happenings in his particular field. Composed of practice-useful abstracts from 600 leading journals, with short lectures and editorial comments from prominent physicians, Audio Digest offers programs covering general practice, surgery, internal medicine, obstetrics and gynecology, and pediatrics.

Contact: Claron L. Oakley, editor, 1919 Wilshire Blvd., Los Angeles 57.

Medical Dates Bulletin

MAY MEETINGS

Children's Hospital of the East Bay Sixth Annual Clifford D. Sweet Seminar, May 16 and 17, Claremont Hotel, Berkeley. *Contact:* Arthur Bolter, M.D., Clifford D. Sweet Lectureship Committee, Children's Hospital of the East Bay, 51st and Dover St., Oakland 9.

American Academy of Applied Nutrition 22nd Annual National Convention, May 16 through May 18, Huntington-Sheraton Hotel, Pasadena. *Contact:* R. T. Pottenger, M.D., vice-president, 960 E. Green St., Pasadena.

Palo Alto Medical Clinic—Palo Alto Medical Research Foundation, Medical Symposia: Hematology and Tissue Transplantation, Auditorium, Palo Alto Medical Clinic, 8:30 a.m., May 17, 904 Bryant St., Palo Alto. *Contact:* John F. Weigen, M.D., program chairman, Palo Alto Medical Clinic, Palo Alto.

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*Fee to be announced.

Los Angeles Academy of General Practice, Sports Medicine Symposium, 1925 Wilshire Boulevard, Los Angeles, 9 to 5 daily, May 17 and 18, buffet luncheon daily. Registrants: Physicians, athletic directors, coaches and trainers. Fee: $10.00, includes both luncheons. Registration in advance. *Contact:* Ralph L. Bennett, M.D., secretary, Los Angeles Academy of General Practice, 9312 Tenth Avenue, Inglewood 4.

Hawaiian Divisional Meeting, American Psychiatric Association, May 17 to 22, Hawaiian Village, Honolulu. *Contact:* Alfred Auerback, M.D., 450 Sutter St., San Francisco.

Western Branch, American Public Health Association Annual Meeting with Canadian Public Health Association, May 19 to 23, Vancouver, B. C. *Contact:* Mrs. L. Amy Darter, secretary-treasurer, 2151 Berkeley Way, Berkeley 4.

American Laryngological Association, May 19 to 20, San Francisco. *Contact:* James H. Maxwell, M.D., secretary, University Hospital, Ann Arbor, Michigan.

American Broncho-Esophagological Association, May 21 to 23, San Francisco. *Contact:* F. Johnson Putney, M.D., secretary, 1719 Rittenhouse Square, Philadelphia, Pa.

California Heart Association Annual Meeting, Scientific Session and Directors Meeting, Hacienda Motel, Fresno, May 23 to 25. *Contact:* J. Keith Thwaites, executive director, 1428 Bush St., San Francisco.

SUMMER AND FALL MEETINGS

American College of Physicians, Course in Internal Medicine, University of California Medical Center, San Francisco, June 16 to June 22, all day, each day. *Contact:* E. R. Loveland, executive secretary, American College of Physicians, 4200 Pine Street, Philadelphia 4, Pennsylvania.

American College of Chest Physicians 24th Annual Meeting, June 18 to 22, San Francisco. *Contact:* Mr. Murray Kornfeld, executive director, 112 East Chestnut St., Chicago 11, Ill.

American Medical Association Annual Meeting, June 23 to 27, San Francisco. *Contact:* American Medical Association, 535 North Dearborn St., Chicago 10.

American Proctologic Society, June 29 to July 3, Los Angeles. *Contact:* Norman D. Nigro, M.D., secretary, 10 Peterboro St., Detroit 1, Michigan.

Hawaii Medical Association Summer Conference, July 1 through July 3, Honolulu. *Contact:* Lee McCaslin, executive secretary, 510 S. Beretania St., Honolulu.

Idaho State Medical Association Annual Convention, July 6 to 9, Sun Valley, Idaho. *Contact:* Armand L. Bird, executive secretary, 364 Sonna Building, Boise.

Rocky Mountain Cancer Conference, July 9 and 10, Shirley-Savoy Hotel, Denver. *Contact:* Alexis E. Lubchenco, M.D., 835 Republic Bldg., Denver 2, Colo.

New Mexico Chapter Academy of General Practice Ruidosa Summer Clinic, July 21 through July 24, Ruidosa, New Mexico. *Contact:* Frederick R. Brown, M.D., secretary-treasurer, 207 N. Union, Roswell, New Mexico.

Western Regional Meeting, International College of Surgeons, Riverside Hotel, Reno, Nevada, August 21 to 23. *Contact:* Leo D. Nannini, M.D., 190 Mill Street, Reno, Nevada. For reservations, write Riverside Hotel, Reno, Nevada.

Saint John's Hospital Postgraduate Assembly, September 11 through September 14, Saint John's Hospital, Santa Monica. *Contact:* John C. Eagan, M.D., director, Postgraduate Assembly, 22nd St. at Santa Monica Blvd., Santa Monica.

Washington State Medical Association Annual Convention, September 14 to 17, 1958, Spokane, Washington. *Contact:* Ralph W. Neill, executive secretary, 1309 Seventh Ave., Seattle, Wash.

Nevada State Medical Association Annual Meeting, September 17 through 20, Elko, Nevada. *Contact:* Nelson B. Neff, executive secretary, P. O. Box 188, Reno.

Colorado State Medical Society Annual Session, September 24 through 27, Broadmoor Hotel, Colorado Springs. *Contact:* Harvey T. Sethman, executive secretary, 835 Republic Bldg., Denver 2.

California Academy of General Practice Tenth Annual Scientific Assembly, October 5 to 8, Masonic Temple, San Francisco. *Contact:* William W. Rogers, executive secretary, 461 Market Street, San Francisco 5.

Fifth Annual Fort Miley Surgical Clinics and Symposia sponsored by the San Francisco Academy of General Practice in cooperation with Faculties of Stanford University School of Medicine and University of California School of Medicine at Fort Miley Veterans Administration Hospital, 42nd Avenue and Clement Street, San Francisco, will start on October 14, 1958 at 8 p.m. and each Tuesday thereafter ending November 18, 1958. *Contact:* Alexander F. Fraser, M.D., 3490 20th Street, San Francisco.

California Society of Internal Medicine Annual Meeting, October 17 to 19, Ahwahnee Hotel, Yosemite. *Contact:* Mrs. Mildred B. Coleman, executive secretary, or Dr. Clyde C. Greene, secretary-treasurer, 350 Post St., San Francisco 8.

American Heart Association Scientific Sessions and Meetings, October 24 to 28, Fairmont Hotel and Civic Auditorium, San Francisco. *Contact:* J. Keith Thwaites, executive director, California Heart Association, 1428 Bush Street, San Francisco 9.

Los Angeles County Heart Association 28th Annual Professional Symposium, October 29 and 30, Wilshire Ebell Theater. *Contact:* Los Angeles County Heart Association, 660 S. Western Ave., Los Angeles 5, DUnkirk 5-4231.

Santa Barbara County Heart Association, Professional Symposium, 9 to 5 p.m., November 1, Biltmore Hotel, Santa Barbara. *Contact:* Mrs. Katherine McCloskey, executive director, 18 La Arcada Court, Santa Barbara.

THE PHYSICIAN'S *Bookshelf*

PRE-EMPLOYMENT DISABILITY EVALUATION — William A. Kellogg, M.D., F.A.C.S., formerly associated with the Medical Dept., Douglas Aircraft Co., Inc., Long Beach, California Division; Clinical Professor of Surgery, New York Polyclinic Post-Graduate Medical School; Assistant attending Surgeon, Bellevue, Broad St., Gouveneur, and Polyclinic Hospitals, New York, N. Y. Preface by H. L. Herschensohn, M.D. Published Nov. 25, 1957, by Charles C. Thomas, 301-327 E. Lawrence Ave., Springfield, Ill. 155 pages, $10.50.

The author has written a comprehensive guide which aims and, to a great extent, succeeds in providing a key to an applicant's employability. The book begins with a statement of the importance of pre-employment examinations. In addition to the general systematic breakdown, there are also considered: (1) Diseases and conditions due to various types of organisms, (2) External agents and their effects, (3) Nutritional and constitutional diseases and conditions, (4) Restrictions, (5) Tumors and cysts, (6) Medical forms, and finally, re-examination of employees. This material has been compiled on the basis of the author's experience with twenty thousand pre-employment examinations. It is presented in a form which can be altered as circumstances require.

This book is an attempt to fill a void which has been too long vacant. From a technical point it does so. Its very strength, its emphasis on techniques of measuring disability, is also its weakness. Used as a reference book by an examining physician or by an employment manager to evaluate the seriousness of any particular handicap or ailment of an applicant, it will serve a useful purpose. It will supply guide lines for consideration. If it is used as a Bible and is followed blindly, it will likely result in consequences which are disturbing to contemplate.

Little is mentioned about the attitude of applicants, nor how well they may have compensated for their defects. Concessions in accepting applicants with defects are made somewhat grudgingly. The book is reminiscent of an older philosophy that an employer is buying labor off the open market and is entitled to select the cream of the crop. A more current philosophy, which a reader of this book might not suspect exists, is that a cross section of the community should be employed and only those with defects which are more than ordinary risks to themselves or others, including the employer, should be rejected. Only in a market with a great excess of labor could the standards of this book be enforced and the employer hire enough help to operate his business. This criticism is not too serious, since the situation will be self-correcting. The young enthusiastic examining physician or employment manager will not long exercise this power of rejection of applicants to the unrestricted extent described before he will be "educated" by the management that the employer's first interest is production and if the medical standard set for applicants interferes with hiring sufficient help to meet production needs, the medical standard must be lowered.

One gains the impression that the examining physician works in a vacuum and can ignore the employer's need for labor and disregard any social obligation to the community. The examining procedure is apparently considered as rigid and inflexible as the rejection of oranges in a fruit shed for failure to meet a color standard, regardless of how sweet or copious their juice.

That this impression is not inconsistent with the author's belief seems to be borne out by the fact that two pages are devoted to "The Pre-Employment Examination as Conducted by a Nurse." Regardless of the situation in other states, these two pages are a wide open invitation to the California nurse who carries out the prescribed program to invite the investigative attention of the State Board of Medical Examiners. Your reviewers were shocked with some of the statements and alarmed for fear the suggestions would be followed. Some of the statements in this section are as follows: (Italics are the reviewers) "Where such authority (x-rays, consultations, etc.) is not deemed advisable . . . the nurse should be *instructed to reject all applicants about whose condition she is uncertain.*"

Parenthetically, it is with some relief that it was noted that capable as she is to examine the eyes, ears, nose, and throat, that "the nurse should avoid the use of the otoscope." "The nurse will have the same choice of decisions as the physician medical examiner; namely, *medical* hold, approval, rejection, or approval with restrictions."

The author admits that unless the nurse is authorized to refer applicants to an outside physician, the number she must reject will be higher than when the examinations are conducted by a physician. However, he finds solace in the fact that *around 60 per cent are physically sound,* and with this note of optimism, concludes that "*the pre-employment examination carried out by a nurse may prove satisfactory and is far better than no examination at all.*" To your reviewers, this seems like advising parents that dynamite caps may be satisfactory playthings for children and are far better than no toys at all.

The final word in this section is described as the proper guide for the nurse who is to conduct such an examination: "*When in doubt, reject.*"

Fortunately, most nurses in California have a high enough regard for their profession to stay within the confines of the medical and nursing practice acts. The California State Nurses Association has done much to educate the members regarding the pitfalls of practicing medicine. There may still be the unwary or inexperienced for whom this word of caution may be helpful.

This book has much to commend it. It is, however, arbitrary in the reviewers' belief and to follow it literally would be to invite embarrassment, if not difficulty. Therefore, if the reader finds himself in doubt as to whether he should follow its advice or not, he might remember the author's injunction to a nurse who is in doubt.

John T. Wilson, M.D., and
Christopher Leggo, M.D.

CLINICAL HEART DISEASE—Samuel A. Levine, M.D., F.A.C.P., Clinical Professor of Medicine, Harvard Medical School; Physician, The Peter Bent Brigham Hospital, Boston; Consultant Cardiologist, Newton-Wellesley Hospital; Physician, New England Baptist Hospital. Fifth Edition, Illustrated. W. B. Saunders Co., Philadelphia and London, 1958. 673 pages, $9.50.

The fifth edition of Levine's Clinical Heart Disease maintains the high standards of its predecessors and brings up-to-date much of the material. The two major additions to this new edition are a chapter on "Congenital Heart Disease" by Doctor Nadas of the Children's Hospital in Boston and a long section on "Electrocardiography" by Doctor Harold Levine of The Peter Bent Brigham Hospital in Boston. The latter is more than 200 pages in length and is an excellent modern version of the subject which incorporates concepts of vectorcardiography as well as clinical electrocardiography. This section would be worth independent publication.

Doctor Levine's book is characterized by its lucid presentation of opinions substantiated by years of clinical experience, its intensely personal nature, and by its illustration of points that Levine chooses to make by succinct clinical histories. These last are usually short, sparkling accounts of events in patients that highlight diagnoses or therapy.

The author has maintained the purely personal aspect of the text by citing no references, making it clear that his remarks are his own opinions and based on his own experiences. This, of course, has advantages and disadvantages and assumes some knowledge of the field and is an additional source of reference material. The book, therefore, will not stand alone as a text in cardiology such as those by Wood, White and Friedberg; it is a superb adjunct by one of the masters of clinical cardiology in this country. It is highly recommended.

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SURGERY IN WORLD WAR II—Ophthalmology and Otolaryngology—Colonel John Boyd Coates, Jr., M.D., Editor in Chief; M. Elliott Randolph, M.D., Editor for Ophthalmology; Norton Canfield, M.D., Editor for Otolaryngology, Office of the Surgeon General, Department of the Army, Washington, D. C., 1957. For sale by Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C., 605 pages, $5.00.

This volume, which presents the history of ophthalmology and otolaryngology during World War II, was written by 24 medical officers in these two services during the war. The book is part of the overall history of surgery in World War II.

Ophthalmology, which is discussed in the first 378 pages, covers the activities in the Zone of the Interior, the Mediterranean Theater of Operations, the European Theater of Operations, and the Southwest Pacific and the Pacific Ocean Areas.

While of necessity there are many statistical accounts, there are portions that are of more than passing interest to the civilian ophthalmologist.

One of these is the account of the development of acrylic eyes which were developed by the combined cooperation of the Medical and Dental Corps. These artificial eyes had so many advantages over the glass eyes formerly used that their use has been adopted in civilian life.

Another thrilling episode is the 62-page account of the rehabilitation of blinded casualties as described by Dr. James N. Greear, Jr., who was the guiding light in initiating what soon became an outstanding blind program.

Also noteworthy in the volume is the very small number of cases of sympathetic ophthalmia observed in World War II.

Seven chapters of the book are devoted to Otolaryngology. Of these, five chapters deal with the various phases of the aural rehabilitation program for the deafened and the hard of hearing. While this program was less extensive and considerably less satisfactory than the rehabilitation program of the blind, it did produce a good deal of knowledge which has been carried over to the peacetime Army program of the loss of hearing. In addition, the lessons learned have been carried over into the civilian care of the hard of hearing.

The chapter on facial paralysis in military personnel places particular emphasis on the methods of surgical repair of the facial nerve.

All in all the volume contains many things of interest to the civilian ophthalmologist and otolaryngologist.

The paper, type and illustrations are all excellent, and the general format is far superior to the similar publication following World War I.

FREDERICK C. CORDES, M.D.

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SYNOPSIS OF OTORHINOLARYNGOLOGY—John F. Simpson, F.R.C.S., Ian G. Robin, F.R.C.S., and J. Chalmers Ballantyne, F.R.C.S. John Wright & Sons, Ltd., Bristol, 1957. The Williams and Wilkins Company, Baltimore, U. S. Agents. 443 pages, $8.50.

As stated in the preface, this book is "intended for quick reference and revision for those who are studying for postgraduate examinations in this specialty." However, it is much more comprehensive than the authors modestly state. It should be useful as a reference not only to the ones mentioned, but to otolaryngologists, general practitioners and also to various lay groups, such as teachers, physiologists and lawyers interested in medico-legal problems. It gives a synopsis of all parts and phases of the ear, nose and throat, including embryology, anatomy, physiology and treatment. Surgical principles are described but no detailed technics are attempted, as they are not within the scope of the book. There are 88 excellent drawings, which aid in explaining the text. The final section of "Diseases of the Nervous System in Relation to Otorhinolaryngology" is a welcome addition and includes intracranial complications, lesions of the cranial nerves, headache, facial pain, vertigo and speech and its disorders. The book is well written, concise and covers the subject completely. It should be on the shelf of every reference library.

LAWRENCE K. GUNDRUM, M.D.

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SYMPOSIUM ON DISEASES AND SURGERY OF THE LENS—Editor, George M. Haik, M.D., F.A.C.S., Professor of Ophthalmology, Louisiana State University School of Medicine; Associate Editor, Elizabeth M. McFetridge, M.A., Art Editor, Don Alvarado. C. V. Mosby Company, St. Louis, 1957. 260 pages, $10.50.

This book is a newer approach to textbook instruction. It has an excellent practical resume of the embryology of the lens to begin the symposium.

The next chapters deal with types of cataracts both pre- and postnatal. Next in sequence is the surgical removal of the various types of cataracts. Following this is the treatment of complications.

Then follows a chapter on the vitreous and its relationship to cataracts and the removal of cataracts.

To me the most interesting portion of the book is the final chapter of round table discussions. These are basically clinical observations made by competent surgeons who have had decades of experience. This is a very enlightening book for an eye surgeon.

ALFRED R. ROBBINS, M.D.

PRACTICAL OTOLARYNGOLOGY—Gervais Ward McAuliffe, M.D., F.A.C.S., F.I.C.S., Associate Clinical Professor of Otolaryngology, Cornell University Medical College. Landsberger Medical Books, Inc. Distributed by The Blakiston Division of the McGraw-Hill Book Co., 330 West 42nd Street, New York 36, N. Y., 1957. 320 pages, $7.00.

Unlike its prototypes, McAuliffe's "Practical Otolaryngology" designated as a handbook for the general practitioner, is not a standard abridgement. It is, rather, a well organized compilation of gleanings from many years of practice and teaching. Much of its value is derived from the unorthodox style of exposition employed by the author. This book offers a great deal of information concerning practical approaches to diagnosis and therapy of common otolaryngologic diseases. The presentation of this material is similar to what might be encountered in brief, intimate, clinical conferences in a postgraduate course.

While many of this book's virtues lie in its brevity, so do most of its faults; in many of the passages its conciseness tends to be misleading or confusing. The work is studded with categorical statements of a controversial nature. For example, Dr. McAuliffe recommends the use of novobiocin (referred to in the text by a trade name) in traumatic perforations of the tympanic membrane.

Dr. McAuliffe illustrates his material with his own admirable line drawings. More of these should have been included. Many of the other illustrations, especially the photographs of the "McAuliffe Aerosol Machine" and the "McAuliffe Wet Suction Apparatus for Treatment and Diagnostic Irrigation of the Tonsil," could well have been deleted. (An entire chapter is devoted to the "McAuliffe Wet Suction Apparatus." Since this device, which was originally reported by the author in 1931, has not gained acceptance by otolaryngologists, the inclusion of a chapter describing it to the general practitioner seems to be injudicious.)

Despite these criticisms, this book is recommended to the general practitioner, so much of whose work is in ear, nose, and throat. The handbook would also be helpful to medical students, interns, and residents in fields other than otolaryngology.

Charles P. Lebo, M.D.

* * *

LUMBAR PUNCTURE AND SPINAL ANALGESIA—Second Edition—Sir Robert Macintosh, M.A., D.M., F.R.C.S. (Edin.), F.F.A.R.C.S., M.D., Nuffield Professor of Anaesthetics, University of Oxford. The Williams and Wilkins Co., Baltimore, exclusive U. S. agents, 1957. 142 pages, $6.00.

This eminent British anesthesiologist presents in his monograph far more than the technique of lumbar puncture and spinal analgesia. The early history of spinal analgesia is told in an interesting first chapter. In a chapter devoted to anatomy, the bony structures in the lumbar region are presented in a detailed and clear fashion. The various ligaments and the intervertebral discs are also accurately described. Both the cranial and spinal meninges, as well as the subarachnoid space, are discussed in detail, and clarified by excellent colored drawings. While there is a good description of the extradural space, and the important role of the latter compartment in relation to the improper spinal puncture or intrathecal injection, no attempt is made to discuss the gross or microscopic anatomy of the spinal cord, but attention has been given to the dentate ligaments, the anatomy of the cauda equina, and the position of the conus medullaris in the infant and adult.

The description of cerebrospinal fluid physiology is an oversimplified presentation based on the classical theories dating to the work of Dandy and Weed. The ventricular system, as well as the cranial and subarachnoid pathways, is very clearly illustrated. The composition, function, volume, and pressure of the cerebrospinal fluid are all discussed.

A separate 25-page chapter contains numerous drawings of anatomical dissections covering the entire spinal canal and the posterior fossa. There is considerable repetition, in this section, concerning points covered in the chapters on anatomy and the cerebrospinal fluid, but the illustrations are of excellent quality, and the accompanying comments by the author serve to emphasize important points.

The sterilization of the patient's skin, of the operator and of syringes, needles and drugs is fully outlined. A detailed description of the technique of lumbar puncture in both the lateral decubitus and sitting positions is presented, and this chapter is accompanied by a series of excellent illustrations depicting most of the technical difficulties that may be encountered.

In a separate chapter concerning the distribution of analgesic solutions, the author has described the effects of gravity, volume displacement, turbulent currents, and barbotage.

The problem of headache following both lumbar puncture and spinal analgesia is adequately discussed.

The final chapter, entitled "Do's, Don'ts, and Doubtfuls," contains a number of working rules concerning lumbar puncture and spinal analgesia which this experienced anesthetist has found to be of value.

This monograph does not describe cisternal puncture, extradural anesthesia or caudal blocks. It probably will have little to offer to the well-trained physician anesthetist. It should be of real value to those beginning their training in anesthesiology, as well as to those surgeons who, through varying circumstances, administer their own spinal analgesia.

The excellent illustrations and the clear description of technique should make this book valuable to all physicians who perform lumbar punctures, and it will be especially helpful to those training in neurology, neurosurgery, orthopedics, and radiology.

* * *

PHYSICAL METHODS IN PHYSIOLOGY—W. T. Catton, M.Sc. Physiology Department, Kings College, Newcastle-upon-Tyne. Philosophical Library, Inc., 15 East 40th St., New York City 16, N. Y., 1957. 375 pages, $10.00.

Here is a very easy-reading, non-"stuffy" book packed with vital basic facts about physical problems and methods in better understanding and application of physiology.

Certainly, the contents are highly technical, but the reader does not lose the major objective of the discussion in favor of rhetoric. It is well written.

Students of medicine can use this handy volume with its accurate information, to the point and at the same time presenting a definite "feeling" for the clinical problems which are implied by the subjects.

Seven vital chapters give an excellent basic overview of the physical problems of Blood, the Circulation, Respiration, Muscle, Peripheral Nerve, the Physical Basis of Body Heat Exchanges, and Electronics in Physiology.

A clear and concise section on sedimentation rate gives the reader the tools he needs for better interpretation and evaluation of his laboratory work. Speculation is absent. Another example is how "the effects of gravity" on circulation section explains why many patients faint during an upper G.I. series and other tests where the body is maneuvered. Effects of acceleration on circulation described here can be easily applied to aviation and space travel medicine.

Although the title might imply this book to be for researchers in physiology, I can honestly say clinicians will enjoy its contents.

Harland Goldwater, M.D.

TEXTBOOK OF GYNECOLOGY—Second Edition—John I. Brewer, B.S., M.D., Ph.D., Professor of Obstetrics and Gynecology, Northwestern University Medical School, Chief of Gynecology and Obstetrics, Passavant Memorial Hospital, Chicago, Ill. The Williams & Wilkins Co., Mount Royal and Guilford Avenues, Baltimore 2, Maryland, 1958. 742 pages, $15.00.

This second edition of Brewer's gynecologic textbook really represents his third effort, although the first volume in the series was published by a different firm in 1950. The edition of 1953 represented a considerable expansion of the original material, and the present edition is not only a much larger book than the last one but exhibits the material in quite a different sequence.

The first part of the book is concerned with signs, symptoms and complaints of patients, and these items are somewhat artifically grouped into three sections relating to childhood, maturity, and the aging female. The section on childhood contains a lengthy chapter on basic endocrinology and various clinical endocrine problems, contributed by Edwin De Costa, but much of this material has nothing at all to do with children.

The section on maturity deals with the usual problems of adult women—uterine bleeding, vaginal discharge, tumors, infertility, and various sorts of pelvic pain. The material is essentially the same as that of the previous edition. It is pleasing to note that the author now refers to uterine myomas instead of fibroids. Finally, the aging patients are allotted the chapters on vaginal protrusions, urinary incontinence, postmenopausal bleeding, and a few other items of lesser magnitude, although many of the problems mentioned here are by no means found exclusively in the senescent woman.

The second major portion of the book is virtually the same as Part I of the previous edition—a fairly standard coverage of the topics usually found in a gynecologic text, in ascending order, from vulva to ovaries. The chapter on carcinoma of the cervix has been rewritten and greatly expanded, and several pages of references have been added. Similar revision has been afforded the material on endometriosis.

This book was designed for undergraduate teaching, with a view to preparing students for general practice, but it is rapidly becoming too bulky for this purpose. One wonders what has impelled the author to add more than two hundred pages to this new edition and to include great numbers of references which no medical student will ever get around to consulting. While the general plan of this work—a dual presentation of much of the material—is different, to say the least, your reviewer is not certain that he is prepared to recommend this book to students for anything more than supplementary reading. Physicians in general practice may find it of some aid in trying to match symptoms with diagnoses.

C. E. McLennan, M.D.

* * *

DISTURBED COMMUNICATION—The Clinical Assessment of Normal and Pathological Communicative Behavior—Jurgen Ruesch, M.D., W. W. Norton & Company, Inc., New York, 1957. 337 pages, $6.00.

As the third of a triad of books concerning communication, this volume attempts a further effort at describing the pathology of mental and emotional diseases in terms of a general framework. Ruesch's interest in communication which led to the production of the previous two volumes seeks to embrace a variety of personality and social disturbances in terms of their effect on communication. The results of poor communication and the therapeutic value of restoring some of these difficulties in the area of interpersonal relationships forms the burden of this volume.

The book opens with an excellent review of source material concerning abnormal mental and psychodynamic processes, as well as abnormal growth and development. The communication aspect is added in the second section where both gratifying and frustrating communications are described. This is further elaborated when disturbed communication is divided up into its various components. Particularly well described are the various mechanisms which are used in the feed-back process: in other words, our various responses to the communications of others. There is an excellent discussion of the role of value judgments as disturbing elements in the communication process.

Finally, this is built into the psychopathology of communication difficulties, both in terms of individual psychopathology and the pathology of the social group. The discussion of the individual pathology presents Ruesch's concept of communication as a basis for fundamental personality difficulties. The discussion of group pathology is a well organized presentation of how the disturbed individual reacts to and is reacted upon by the various group situations in which he lives.

The second section of the book is entirely made up of a guide for the use of the previously described material. It consists of a rather elaborate clinical outline to use in the diagnostic process in accordance with Ruesch's tenets. Many people will find it difficult to utilize without a great deal of practice partly because of its unfamiliarity and partly because it is not an ordinary type of clinical approach. However, it presents one further approach to clinical diagnosis in a field that still has a need for simplicity and clarification. Modern psychiatry continues to search for an overall approach to the reactions of the personality and the use of that reaction in interpersonal relations.

* * *

GENERAL DIAGNOSIS AND THERAPY OF SKIN DISEASES—Herman Werner Siemens, M.D., Professor of Skin and Venereal Diseases at the University of Leiden, Holland. Translated from the German Edition by Kurt Wiener, M.D., Dermatologist, Mt. Sinai Hospital, St. Michael Hospital, Milwaukee, Wis. The University of Chicago Press, 5750 Ellis Avenue, Chicago 37, Ill. 324 pages. $10.00.

The book is divided into two main sections, General Diagnosis and General Principles of Therapy. In the diagnostic section, Doctor Siemens discusses various aspects of the morphology of skin lesions such as the types and variations of the primary and secondary lesions, variations in the shape and distribution of the lesions and the significance of color in diagnosis. A chapter is devoted to a description of the lesions involving the hair and nails, and another chapter is devoted to the interpretation of systemic symptoms.

The book is different from most texts in dermatology. The emphasis is placed on the lesions, how and why they develop into the specific pictures that appear upon the patient's skin. This is in contrast to most texts in dermatology, which treat each disease as a specific entity and which treat the development and pathogenesis of clinical lesions in a hasty and superficial manner.

The second general section on therapy includes sections on vehicles, active ingredients, administration of topical treatment, physical therapy and an excellent chapter on "Therapy and Experience."

The photographs are excellent and display with clarity the points which the author attempts to bring out in the text. The book is written so that the medical student, the practitioner and the dermatologist can all equally comprehend the material easily. The text should broaden the dermatologic perspective of all those who read it, and it is highly recommended as an auxiliary book.

Harold M. Schneidman, M.D.

THERAPEUTIC HEAT—Sidney Licht, M.D., Honorary Member, British Association of Physical Medicine, Danish Society of Physical Medicine, and the French National Society of Physical Medicine. Elizabeth Licht, Publisher, 1958. 360 Fountain St., New Haven, Conn. 466 pages, $12.00.

This book is Volume II of a series of books to constitute a Physical Medicine Library. The editor has gathered together under one cover almost all that is known of the medical therapeutics of heat. The subject is covered under Physics, Thermometry, Physiological Responses, History, General Principles, etc. The uses of heat in various clinical disorders are then described, giving their rationale and application. Ultrasound therapy is included in this book, since one of its physiologic effects is supposed to be heating. According to the publisher, "this book is designed to help practitioners use heat more intelligently in relieving those complaints of their patients likely to respond to therapeutic heat." Actually, it is too technical for the average practitioner. It is a must in the library of everyone working in physical medicine and also useful as a reference book in medical libraries. The editor is to be complimented for having accumulated all this information together in one excellent reference text.

* * *

THE FUNCTIONAL ORGANIZATION OF THE DIENCEPHALON—W. R. Hess, M.D., Professor of Physiology, Emeritus, University of Zurich, Zurich, Switzerland. Edited by John R. Hughes, M.A. Grune & Stratton, 1957, New York, London. 180 pages, $7.00.

This English translation of the work of the Swiss neurophysiologist on the diencephalon is a very creditable job for the editor. It comprises three parts, dealing with autonomic responses, motor responses, and methods. An atlas of points in the diencephalon from which various responses may be elicited by electrical stimulation, with the animal, a cat, free to move about, is presented in great detail. The point is made that responses from the diencephalon are of complex nature. Verification of the stimulation experiments is sought from electrolytically produced lesions made with the same electrodes in place. This is a reference book for the neurophysiologist, and as such is of great value.

Henry Newman, M.D.

* * *

AN ATLAS OF REGIONAL DERMATOLOGY—G. H. Percival, M.D., Ph.D., D.P.H., Grant Professor of Dermatology, University of Edinburgh; Physician to the Skin Department Royal Infirmary, Edinburgh, and T. C. Dodds, F.I.M.L.T., F.I.B.P., R.F.P.S., Laboratory Supervisor, Department of Pathology, University of Edinburgh; Head of Photomicrography Unit at Department of Pathology, University of Edinburgh. The Williams and Wilkins Co., Mount Royal and Guilford Avenues, Baltimore 2, Maryland. 264 pages, $19.00.

Except for a one page preface and the index, this book consists entirely of reproductions in color of photographs of skin diseases. There are 475 pictures on 256 pages. Each picture has a title in bold print beneath it. In addition, almost all of them have from one to five or six lines of comment designed to call attention to important features which the photograph demonstrates. These notes add much to the value of the book as an aid in the diagnosis of diseases of the skin.

The atlas presents representative examples of the "common and less rare" cutaneous disorders, as far as possible in their early developing and fully developed stages. The diseases represented are grouped according to the regions of the body most characteristically involved. There are four regional groupings: Head and Neck, Hands and Arms, Feet and Legs and Trunk and Generalized Eruptions. The authors recognize that most skin diseases may affect any part of the body and that this regional arrangement involves some duplication. The index enables one to quickly refer to all of the illustrations of a given skin disease even though they may be distributed in different parts of the book. Frequently throughout the book diseases which have morphologically similar lesions are grouped together so that one can compare and contrast, and in so doing note minor but important points of difference. Thus, lichen planus, papulosquamous syphilide, psoriasis and pityriasis rosea are seen on successive pages.

The terminology used to designate some of the diseases portrayed is different than that with which many of us here are familiar. The name infective eczema, for example, is used to cover eczematous eruptions commonly described by American dermatologists under the headings of seborrheic eczema, nummular eczema or infectious eczematoid dermatitis.

The color reproductions are for the most part good and some are excellent. In many, fine detail is not well portrayed.

I believe this atlas will be helpful to most physicians having an interest in skin diseases. Used along with one or more of the standard text books on dermatology it should be of real value to students both in undergraduate and graduate training. Dermatologists will enjoy looking at the pictures and will undoubtedly pick up worthwhile points of differential diagnosis from them and their explanatory notes.

Herman V. Allington, M.D.

* * *

A TEXTBOOK OF CLINICAL NEUROLOGY—Israel S. Wechsler, M.D. Consulting Neurologist, The Mt. Sinai Hospital, New York. Eighth Edition. W. B. Saunders Company, Philadelphia and London, 1958. 782 pages, $11.00.

The eighth edition of this standard textbook of Neurology appears just thirty years after the first. It remains one of the most useful books on Neurology for the general practitioner and medical student. The revision has been adequately complete, although one might lament the rather casual treatment of electroencephalography. The approach is that of the clinical neurologist, which has many advantages for those relatively uninitiate in the field. Just as a 1927 motor car cannot be made into a 1958 model by the addition of dual headlights, so this text cannot be considered entirely adequate as a reference work of recent advances in the specialty. For those who want a sound clinical treatment of Neurology the book can be highly recommended.

Henry Newman, M.D.

* * *

NEURITIS, SENSORY NEURITIS, NEURALGIA—Robert Wartenberg, M.D., Clinical Professor of Neurology, University of California Medical School, 1958. Oxford University Press, 114 Fifth Ave., New York, N. Y. 444 pages, $8.50.

It would be hard to find anyone to disagree with the premise that the majority of cases of multiple neuritis are difficult to classify etiologically, and this is the main fact brought out by this posthumous publication of a renowned neurologist who has given us many more worthy books. The volume consists in essence of a series of case histories from the author's files presenting an infinite variety of affections of the peripheral nerves. No clear picture is gained of the relationship of these cases to a definite etiological agent, although voluminous references to the literature regarding similar cases is provided. The one thing to be gained by the practitioner of medicine from reading this book is a realization that it is not possible even for the expert to assign a cause to many cases of peripheral neuritis.

Henry Newman, M.D.

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Medical Grievance Committees Spread Across Nation

(Continued from Front Advertising Section, Page 50)

referred to the appropriate judicial body of the association.

Most of the committees are composed of physicians only, but some include laymen—lawyers, ministers, and businessmen. Inclusion of laymen is still in the experimental stage, according to the American Medical Association Council on Medical Service, the article said. "But they may serve to strengthen community trust in the impartial attitude of the committee . . ."

However, one West Coast woman was quoted as saying, "In our community we know the physicians are working to protect us, not other physicians' careers."

One way to help the community know about the grievance committees is to publicize them, the article said. The Council on Medical Service has pointed out that the service "cannot succeed unless the public knows of its existence and understands how to use it."

The *Journal* editorial said the grievance committee is "here to stay as an integral part of our profession. In the years ahead only technique may need refinement . . ."

Glaucoma a Threat to the Aging

An increasing life span is contributing to an upswing in diseases common to our aging population.

Among the most feared of these is glaucoma, a common eye disease characterized by tension within one or both eyes, and with a high rate of incidence in persons past 40.

Writing in the March 15 issue of the *Journal of the American Medical Association,* three Memphis physicians estimate "one million persons over 40 in the United States have unrecognized glaucoma."

While tragic, this is a problem that could be eliminated, the physicians said, since early detection and treatment "can preserve vision for the lifetime of the individual."

Glaucoma, in its early stages, gives no evidence of pain and there is no apparent loss of vision. For these reasons personal detection is almost impossible and the physicians recommend that an eye examination "be made a part of every general physical examination in persons over 40 years of age."

The simplest means for testing for glaucoma is the tonometer—an instrument for measuring tension in the eyes. Physicians can be taught to use the instrument after a brief period of instruction. Its use, the physicians said, "requires less time and no greater aptitude than obtaining the blood pressure."

(Continued on Page 66)

In Angina Pectoris
The Attacks Lessen and
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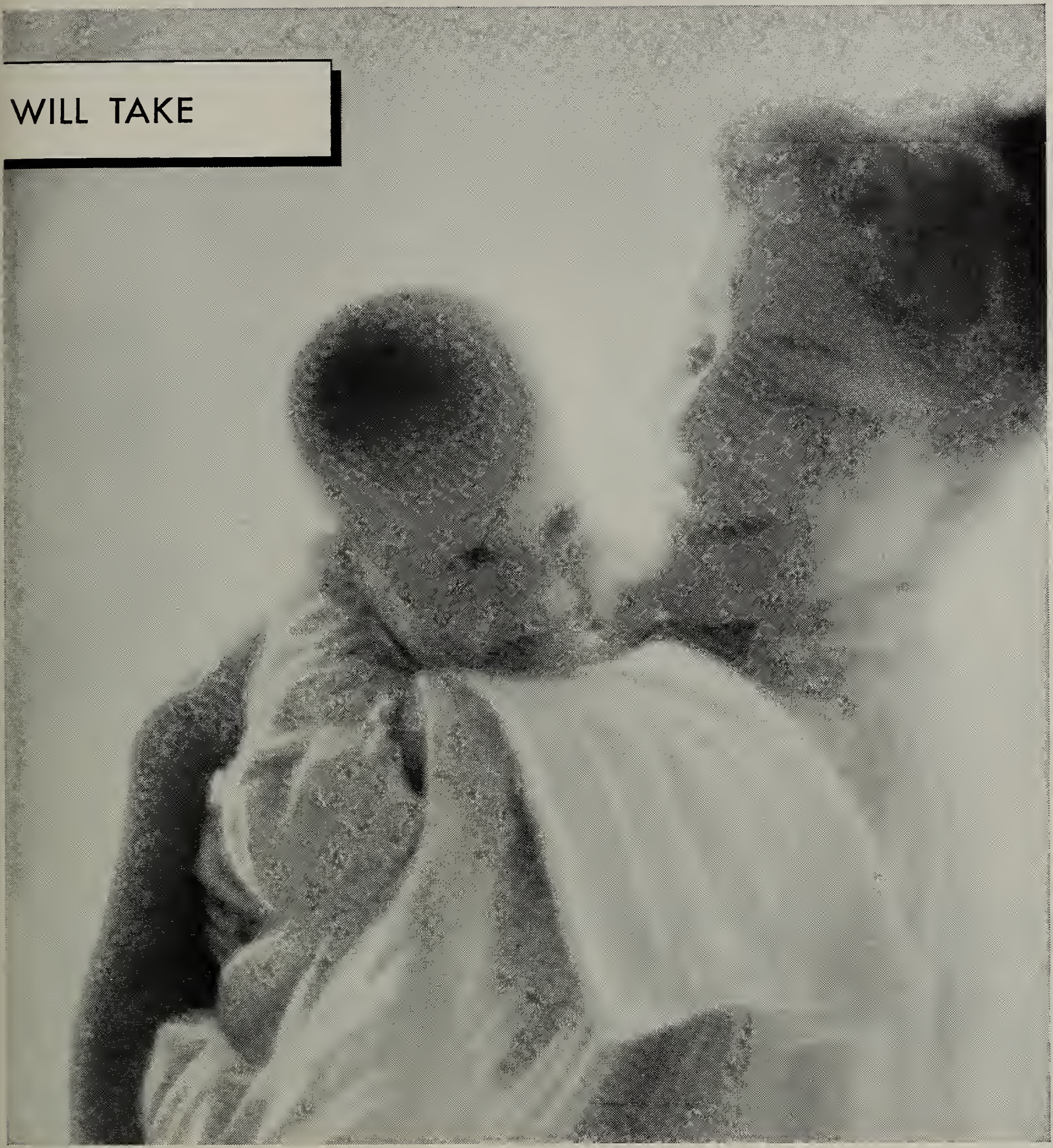

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Glaucoma a Threat to the Aging

(Continued from Page 60)

Tonometry was used as the basis for a six-month glaucoma detection program conducted by Drs. Margaret E. Horsley, Philip M. Lewis, and Henry Packer at the John Gaston Hospital in Memphis.

All patients over 40 years of age admitted to the outpatient clinics of the hospital for any reason were tested by routine tonometry. The physicians felt that this program "would permit an early diagnosis of glaucoma to be made in a significant number of patients before they are aware of any visual loss."

More than 1,200 patients were examined in this manner. Four per cent were found to have unrecognized glaucoma. The diagnosis by tonometry was confirmed by employing comprehensive tests commonly used in glaucoma detection.

Results of this program, the physicians said, indicate that routine determination of eye tension by tonometry "would be a major step toward avoiding much of the blindness resulting from glaucoma."

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No written examination. Employment interviews twice a month in Los Angeles and San Francisco; and at the American Psychiatric Association meeting in San Francisco May 12-16, Booth No. 9.

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CLASSIFIED ADVERTISEMENTS

(Continued from Front Advertising Section, Page 50)

RESIDENTS WANTED *(Continued)*

MEDICAL RESIDENCY AVAILABLE in the San Francisco-Oakland Bay area. Three years approved program on a service consisting of 247 beds in a 712-bed general Veterans Administration hospital with full consultative staff and affiliated services in other hospitals of the area. Applicants must be U. S. citizens and graduates of Class A medical school. Apply to Director, Professional Services, Veterans Administration Hospital, 13th and Harrison Streets, Oakland 12, California.

ROTATING INTERNSHIP—Approved 250 bed general hospital in San Francisco, with active teaching service. Stipend $300.00 monthly and maintenance. Applicants must be eligible for California license. Contact: EDUCATION COMMITTEE, St. Luke's Hospital, 1580 Valencia Street, San Francisco, California.

SURGICAL RESIDENCY—Approved 250 bed general hospital in San Francisco. Three year approval, large out-patient department and clinic service. Stipend $325.00 per month first year, plus maintenance. Contact: EDUCATIONAL COMMITTEE, St. Luke's Hospital, 1580 Valencia Street, San Francisco, California.

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OPHTHALMOLOGIST wanted for locum tenens. Board certified necessary. Approximately August 15th to October 15th Beverly Hills, California. California license required. Please apply with full particulars, references and expectations. Box 94,165, California Medicine.

LOCUM TENENS WORK WANTED

OPHTHALMOLOGIST desires locum tenens position for 3 to 6 months in California. Passed first part American Boards, trained at Wills Eye Hospital. Available July 1, age 32, married, 3 children. Box 94,230, California Medicine.

PEDIATRICIAN, mature, with broad general practice background seeks locum tenens work July 1 to September 15 in Bay Area. Willing to do moderate amount of general work. Have California license and narcotics registry. Box 94,215, California Medicine.

PRACTICES FOR SALE

AVAILABLE BETWEEN NOW AND JULY 1ST in San Francisco-East Bay area community, an active general practice in good location. Fully equipped office. No investment needed. Write to: 832 Norvell Street, El Cerrito, California.

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LABORATORY TECHNOLOGIST WANTED

TULARE COUNTY HOSPITAL—$400 with call. P. O. Box 1017, Tulare, California. Telephone MU 6-3461, Extension 27.

(Continued on Page 96)

"Casual Attitude" Causes Electric Shock Deaths

A casual attitude about electric current which "verges on the suicidal" is taking the lives of more than 1,000 persons each year.

This was reported in the April issue of *Today's Health*, the American Medical Association's health magazine.

A large number of these accidents involve children and housewives and result from a lack of understanding about the use and upkeep of electric appliances, according to the authors, T. Arthur Turner and Nicholas Shuman, both of Chicago.

Millions of people have experienced varying degrees of electric shock by handling household appliances with worn or damaged insulation. Most suffer no more than discomfort and immediately forget the incident.

The reason that some people suffer only minor discomfort and others death lies in body resistance to electric current. The body offers considerable resistance to normal electric current and is usually insulated in some manner so that when current enters the body and tries to get to the ground it is absorbed, they said.

However, this changes when a person is standing in water, which is a conductor of electricity. And if the voltage is high enough, resistance will be overcome regardless of the situation.

Some rules for safe handling of electricity given in the article are:

—When entering flooded basements, the main power switch should be pulled before handling any appliance.

—Television sets in metal cases should be grounded with a wire from the frame to the screw of a metal face plate of a wall outlet.

—Grounding is especially important with electric power tools. Nearly all of these have a third, or grounding, wire dangling beside the regular plug. Whenever the tool is operated, this wire should be attached to the ground—through the face plate of the wall outlet or a water pipe.

—Frayed electrical cords should be discarded and all cords should be checked regularly for breaking and fraying of the insulation. Exposure to grease and sunshine will hasten deterioration of rubber insulation.

—Cords to be used in damp or wet areas (such as a washing machine cord) should be moisture resistant. The machine should not be plugged into a metal ceiling socket; because of the damp floor the danger of accidental grounding through the operator is too great.

—Never keep an appliance near a bathtub. It might fall in the tub or the bather might accidentally touch it while wet.

(Continued on Page 78)

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American Medical Association Prepares New Placement Aid

A new throw-away leaflet—"Look Before You Leap"—is being produced by the American Medical Association's Physicians Placement Service as a check list for physicians seeking a location. Since many physicians still apparently are not aware of the placement services available to them through their state medical associations and the American Medical Association, this leaflet will be distributed in adequate supplies to state societies, hospitals and medical schools. —*A.M.A. News & Notes*

"Casual Attitude" Causes Electric Shock Deaths

(Continued from Page 72)

When a person is shocked, the first thing to do is to get him away from the source of the shock, either by disconnecting the power or by pushing him away with a broom or rolled up newspaper. It is dangerous to touch the victim if he is still connected to the power source. Once the victim is free, artificial respiration should be tried while waiting for professional help.

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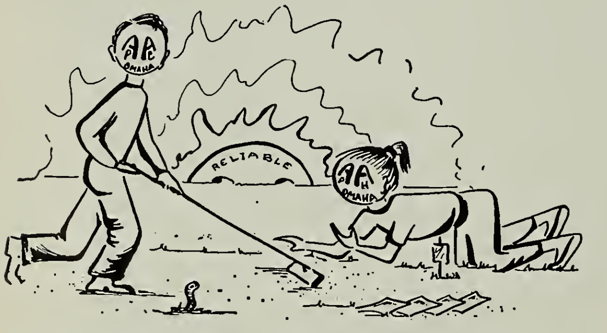

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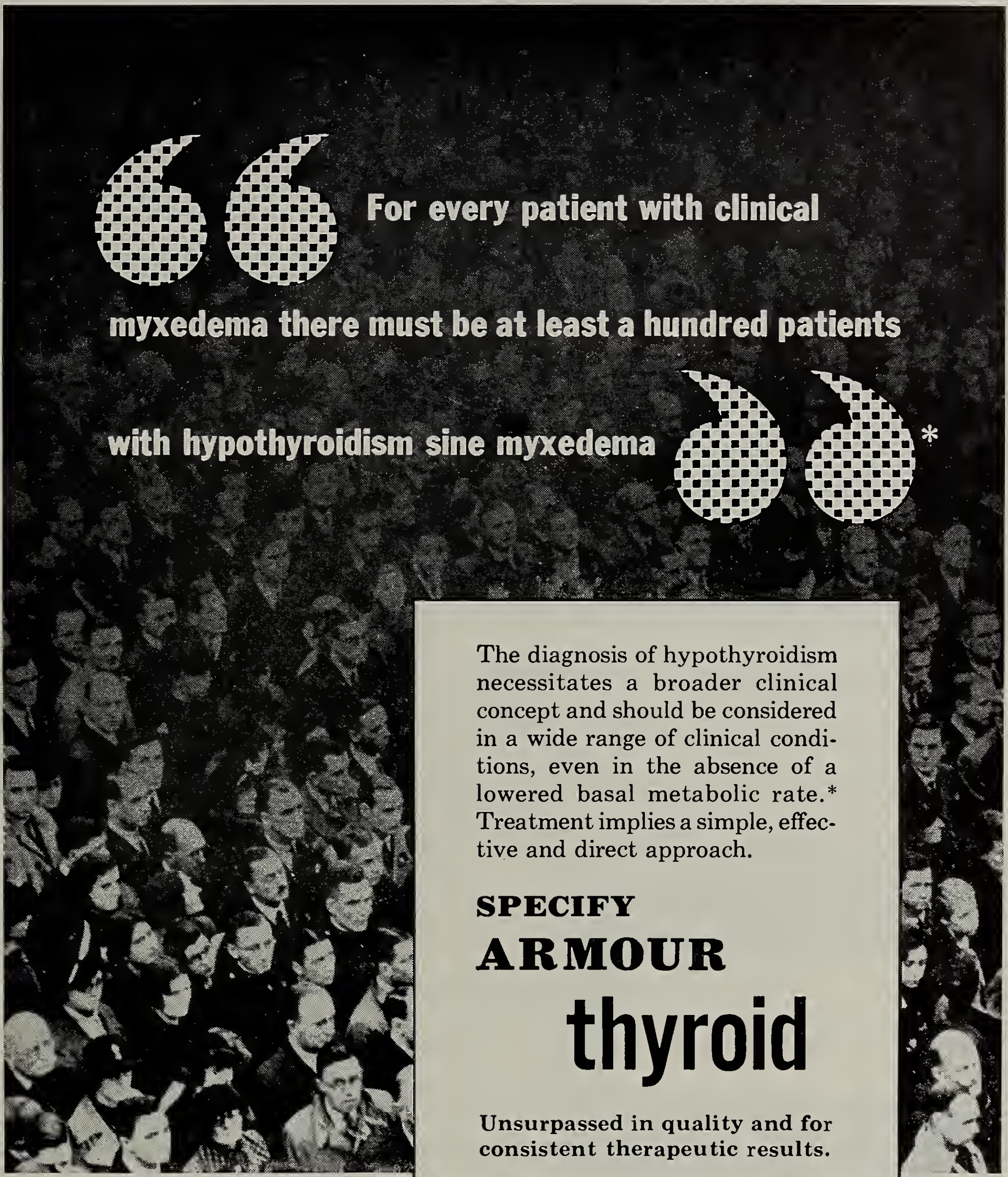
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*Starr, P.: Postgrad. Med. 17:73, 1955.

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Two Groups Outline Role Of Exercise in Fitness

The role of exercise in maintaining fitness was recently outlined by a joint committee of the American Medical Association and the American Association for Health, Physical Education and Recreation.

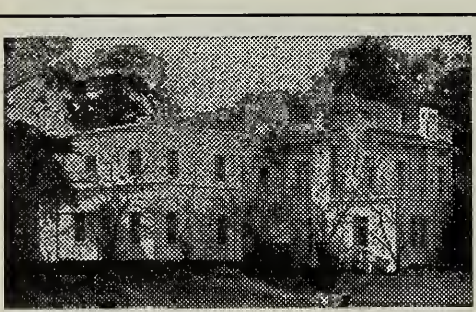
Appearing in the April 5 issue of the *Journal of the American Medical Association,* the joint statement pointed out that an individual's ultimate performance is limited by the physiological capacity of the body systems involved. However, the living body is "responsive to training" and operates under wide margins of safety.

A child or youth requires more exercise than an adult because of growth needs, the statement said. If an individual has been active throughout childhood and youth, maximum fitness is achieved earlier, and, in adulthood, decline of fitness is postponed.

Age, in itself, is not a contraindication to exercise. Precluding accidents, a healthy person will not do himself any permanent injury by "rational physical activity."

"The range of individual variation in capacity for

(Continued on Page 92)



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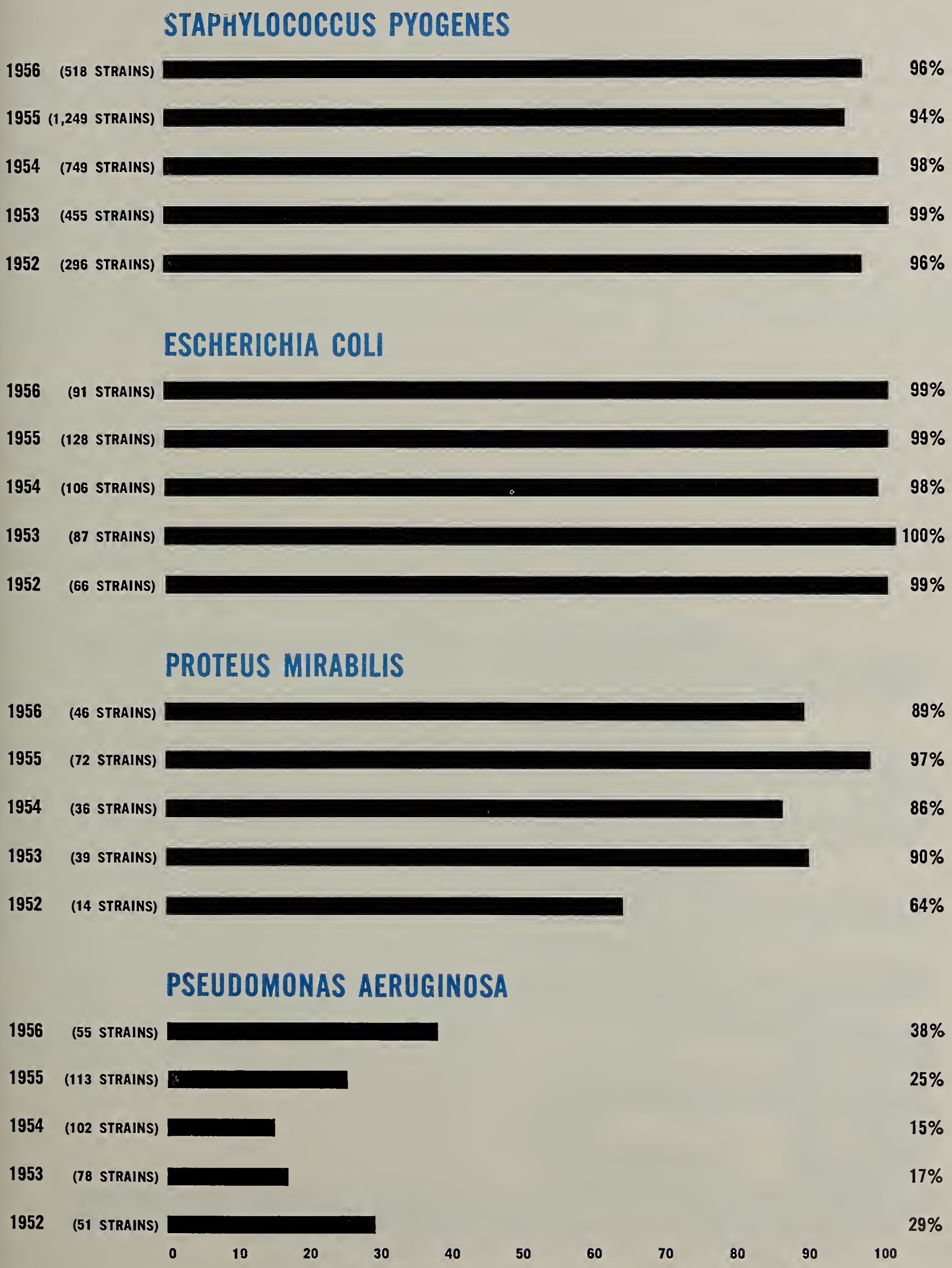

*Adapted from Roy and others.[1]

10858-A

Two Groups Outline Role Of Exercise in Fitness

(Continued from Page 84)

exercise is considerable," the statement said. "Some persons, even at an early age, recover poorly from breathlessness, general fatigue, or feelings of exhaustion. . . . Attempts to modify these responses through planned exercise should proceed slowly under medical supervision."

Other points made by the statement include:

—Usually an individual reduces or stops his exercise long before physiological limits are reached—when feelings of breathlessness, general weakness, or muscular discomfort occur. These subjective factors are psychological rather than physiological in nature.

—Athletes who learn to carry their activity beyond the "so-called psychological quitting time" sometimes experience a "second wind" which represents a physiological adjustment to continuing exercise. This shift in limitations is generally regarded as one of the most important results of training.

—Hard, fast sustained or highly competitive games and sports should not be played by persons beyond the age of 30 unless they have maintained or can attain by systematic training an appropriate state of fitness.

—Persons who are out of training should not attempt to keep pace in any vigorous sport with persons who are properly conditioned and accustomed to regular participation in that sport.

—Being in condition for one sport does not always mean being in condition for another.

—The ability to recuperate after physical activity is a good guide to the desirable severity of exercise at any age. Recuperation should be reasonably prompt.

—Exercise is too severe or too prolonged for a person in his present stage of training and physical strength if breathlessness and pounding of the heart are still noticeable 10 minutes after exercise; marked weakness or fatigue persists after a two-hour rest period; a broken night's sleep is attributable to exercise, or a sense of definite and undue fatigue remains the next day.

—The vigor with which an individual participates in an activity will have more to do with the outcome for fitness than the activities or events in which he elects to participate.

One out of 10 Californians is admitted to a general hospital each year. The rate for men and women is about the same when pregnancies are excluded.

—Health in California

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*REFERENCE: J.A.M.A. 163: 359, 1957 (February 2)

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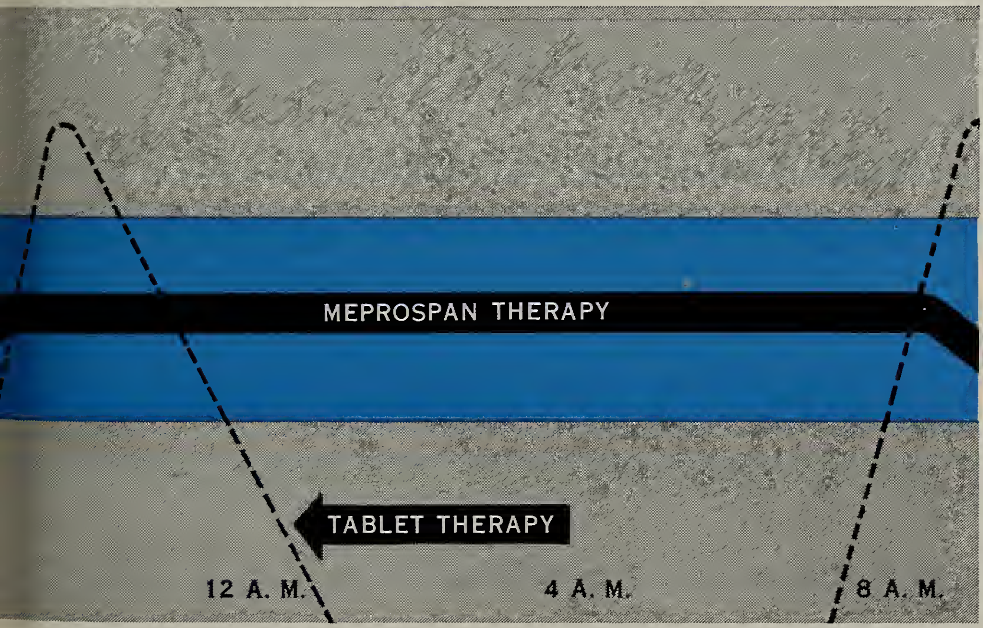

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New Oral Iron Causes Few Side Effects

A new oral iron preparation that produces few adverse gastrointestinal side effects has been reported by four Illinois researchers.

One of the common problems associated with oral iron preparations—given for anemia caused by iron deficiency—is the development of severe gastrointestinal upsets, especially among children. These preparations are also potential poison to children if they are taken in large doses, the researchers said.

However, the new preparation, iron choline citrate (Ferrolip®) appears to be safer than other preparations, they said in the April 5 *Journal of the American Medical Association.*

The iron has undergone the chemical process of chelation, in which the iron is bound into a form similar to that in which iron is held in the hemoglobin. "It is not surprising," therefore, that the presentation of iron to the system as a chelate complex minimizes adverse aspects of iron treatment.

The researchers gave iron choline citrate tablets to 131 patients suffering from iron deficiency anemia. They were given between meals on an empty stomach in order to minimize any effect of food decreasing gastrointestinal symptoms. Few of the common symptoms, such as nausea, vomiting, abdominal cramps, diarrhea, and constipation, appeared.

The iron choline citrate was effective in treating the iron deficiency anemia and was "outstanding" in terms of freedom from undesirable side effects, they said.

Its "high factor of safety against the possibility of accidental poisoning" was borne out by animal tests which showed that 90 per cent of animals given the drugs showed no signs of toxicity. When animals were given massive doses of two common iron preparations, ferrous sulfate and ferrous gluconate, signs of poisoning soon appeared.

The authors are Dr. Murray Franklin, University of Illinois College of Medicine, Wayne G. Rohse, Ph.D., Stritch School of Medicine; Dr. Jesus de la Huerga, Chicago State Tuberculosis Sanitarium, all of Chicago, and Cecil R. Kemp, Ph.D., Decatur, Illinois.

The attainment of health is becoming a major concern in present day society. Mankind is rapidly assuring itself of the main physical conditions for survival—adequate food, clothing, and shelter. As this is accomplished, optimum well-being comes into focus as a paramount goal. Those nations which have been most successful in reducing the mortality rate and thus prolonging life are now turning their attention to the control of illness in a longer-lived population.

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Dietary Treatment Urged For Regional Ileitis

In the absence of a diagnosis demanding immediate surgery, medical treatment is recommended in cases of regional ileitis.

This report was made in the March 22 issue of the *Journal of the American Medical Association.*

The report was issued by American Medical Association's Council on Drugs which feels that "regional ileitis is not entirely a surgical disease. In fact, the disappointment with the late follow-up of surgical intervention has more and more emphasized the need for a well-apportioned and carefully thought-out plan for the conservative medical treatment of this condition."

Ileitis, which usually begins in youth, is a low-grade disease of the small bowel, involving 8 to 16 inches of the terminal loop of the ileum. The disease is non-specific in nature and the cause is unknown.

In addition to the formation of a tender mass in the lower part of the abdomen, symptoms, according to the council, include diarrhea, abdominal pain, loss of weight, and a moderate secondary anemia.

Immediate surgery is deemed necessary when the following symptoms occur: Appearance of abscesses and fistulas on the abdominal wall, intestinal hemorrhage, or intestinal obstruction.

Where surgery has been performed, recurrent ileitis is less severe than the original disease and can be treated conservatively.

Such treatment, which involves diet management, is the recommendation of the council when surgery is not necessary.

It includes an abundance of rest, both mental and physical, and fresh air. The diet should be generous and general, consisting of proteins, carbohydrates and, to a more limited degree, fats.

Above all, the council said, "a hopeful attitude looking to ultimate cure should be engendered. Most patents are ambulatory and may follow their profession or business activities in a somewhat limited fashion."

In addition to diet, a number of drugs are usually employed to control the symptoms of regional ileitis. Most, in themselves, are not curatives but go far in relieving the symptoms and, coupled with the proper dietary management, can lead to control of the disease.

Pregnancy Complications Cause Reading Disorders

Premature births and complications during pregnancy may be factors in causing reading disorders among children.

This theory was advanced by Drs. Ali A. Kawi of New York and Benjamin Pasamanick of Columbus, Ohio, in the March 22 issue of the *Journal of the American Medical Association.*

Following a controlled study of 205 boys, ranging in age from 10 to 14 years, with known reading disorders, the physicians observed, "Children with reading disorders had a significantly larger proportion of premature births and abnormalities of the prenatal and paranatal periods than other control subjects."

Brain damage during pregnancy has been a factor in fetal deaths and it is known that such brain damage plays an important part in cerebral palsy, epilepsy, mental deficiency, and behavior disorders in childhood, the physicians said.

Since the brain plays a major role in our ability to read it was natural to assume that such damage to the brain during pregnancy could contribute to reading disorders in children.

This study, involving only boys, was conducted in Baltimore and included 205 children with reading disorders and a similar number, in the same age category, with normal reading behavior.

In addition to basic identification, the examiners obtained birth certificates, clinical information, and complete hospital birth records of each child studied.

The physicians found that "a total of 104 complications occurred among the group with reading disorders, as contrasted with 50 in the control group."

"Of the children with reading disorders, 16.6 per cent had been exposed to two or more maternal complications, as compared to 1.5 per cent among the controls," the physicians said.

Maternal complications appearing to be highly associated with reading disorders, according to the physicians, are "preeclampsia, hypertensive disease, and bleeding during pregnancy." The three tend to produce an oxygen deficiency, the physicians stated.

Since premature infants are more susceptible to oxygen deficiencies, it is interesting to note that 11.5 per cent of those children with reading disorders had been born prematurely. This compares with only 4.6 per cent of premature births in the control group. These premature percentages include only surviving infants.

As a result of their study the physicians concluded that the age of the mothers, number of previous pregnancies, length of labor, and the type of delivery are not contributing factors in reading disorders.

In the future, the physicians felt "efforts must be directed toward the eradication of maternal and fetal abnormalities, since these not only influence infant loss but also appear to have an effect on the surviving infant." This can be done, they added, by preventive measures and improved treatment during pregnancy.

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Reference: *Alexander, L.: Chemotherapy of depression—Use of meprobamate combined with benactyzine (2-diethylaminoethyl benzilate) hydrochloride. J.A.M.A.* 166*:1019, March 1, 1958.*

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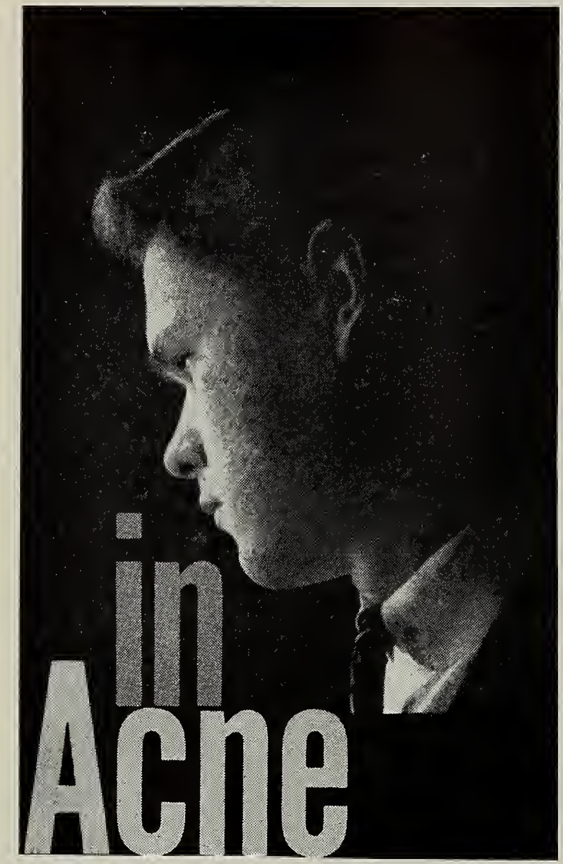

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1. Hodges, F. T.: *GP* 14:86, Nov., 1956.

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Community Is Responsible For Care of Aged

The principal responsibility for the care of the aged rests on the family and community level, two St. Louis physicians have stated.

In fact, the aim in caring for the aged should be to keep them in the community and out of institutions for as long as possible.

In order to do this, each aged person must be treated individually. His major needs are reasons for living, good nutrition, adequate housing, recreation, and good medical care.

Some methods for meeting the individual's needs, especially the medical needs, are outlined by the physicians in the May 3 issue of the *Journal of the American Medical Association.* Drs. Joseph J. Costello Jr. and George M. Tanaka base their recommendations on their experiences at St. Louis Chronic Hospital.

They said each community needs organized services that will help the aged person care for himself or be cared for by his family at home. These include help in nursing, diet planning, occupational and physical therapy and housekeeping.

A community information center is needed to tell the aged individual about community resources, they said. A counseling service in the center is extremely helpful in directing the person to required medical or other aid.

All agencies that work with aged individuals must carry on a constant screening process. In this way only those individuals who cannot possibly be cared for outside of institutions are referred to them.

Adult recreation centers offer the first screening contact where an aging person's physical disabilities and desocialization tendencies can be detected. Recreation workers can then refer the aged person to his physician for help.

Hospital day programs, in which individuals are brought to the hospital for day treatment but return to their homes at night, help them maintain some degree of independence and contact with the community.

When individuals are no longer able to live alone but do not need constant supervision, they might move to supervised boarding homes. These again help keep the aged persons in the community.

Rehabilitation—the constant working with the aged patient to help him care for himself—is important even after the patient is in a hospital or a nursing home. That rehabilitation can be successful is shown by St. Louis Chronic Hospital's experience in returning some completely dependent patients to the community.

Dr. Costello is medical director of St. Louis Chronic Hospital and Dr. Tanaka is chief of the hospital's medical department. They are also instructors in the department of internal medicine at St. Louis University School of Medicine.

Nutrition Plays Small Role in Skin Disorders

Contrary to common belief, most common skin disorders are "not significantly connected" with dietary or nutritional allergies or deficiencies, according to an American Medical Association council report.

In fact, "dietary factors in acne vulgaris and psoriasis are generally overrated," Dr. Allan L. Lorincz, assistant professor of dermatology at the University of Chicago, said in the report prepared for the American Medical Association Council on Foods and Nutrition. The report appeared in the April 12 issue of the *Journal of the American Medical Association.*

Malnutrition in the form of overeating, which leads to obesity, is "by far the most frequently encountered nutritional disturbance that causes or aggravates skin diseases," Dr. Lorincz said. Obesity precipitates or promotes a variety of disorders of skin on opposing surfaces of the body because of the accumulation of heat and moisture between folds of the skin.

Because dissipation of body heat by conduction and radiation is impaired by a thick subcutaneous fat layer, obese persons become overheated easily and tend to sweat more profusely.

Excessive sweating has an adverse effect on normal skin and especially on most inflammatory skin diseases. It affects a number of lesser known conditions—stasis eczema, which occurs on the legs, skin ulcers, and striae distensae, which results from excessive stretching of the skin.

"In view of the high incidence of overeating and obesity in the United States . . . it is not surprising that measures aimed at controlling this nutritional problem are frequently necessary in the management of skin disorders."

Specific dietary restrictions are valuable in treating some diseases, he said. Carbohydrate restrictions appear to help in chronic furunculosis and in hidradenitis. A low fat diet is helpful in treating xanthomatosis, in which there is a disturbance in fat metabolism.

However, dietary restrictions don't appear to have much effect on acne vulgaris. This is supported, Dr. Lorincz said, "by the commonly observed failure of often self-imposed rigid dietary restrictions in unhappy teen-age acne sufferers to result in anything except frustration and undernourishment."

Even in genuine nutritional deficiency, skin manifestations are rarely so distinctive as to allow them to be used as a means of diagnosis.

Vitamin A has been tried in the treatment of a vast array of skin disorders and has been found to be of "unquestionable" value in only the rare diseases

(Continued on Page 22)

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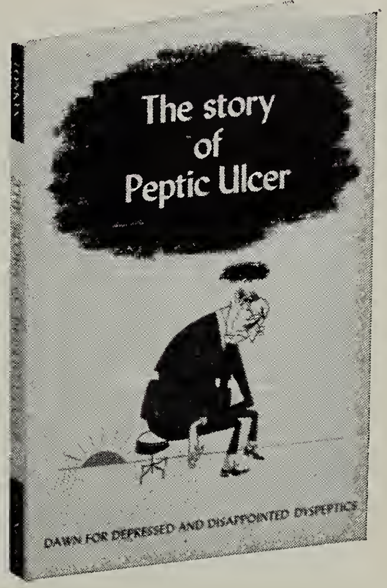
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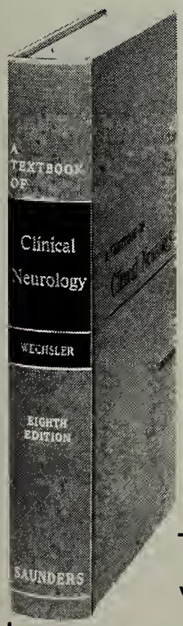

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NOTICE

MIDWEST DENTIST, California licensed, age 32, desires to lease space for general practice of dentistry in new medical-dental building in San Francisco Bay Area. Character references and history furnished on request. Will visit California in July for interview. Box 94,180, California Medicine.

PHARMACIST, age 32, family man, interested in establishing a Professional Pharmacy in Medical Building or Clinic. Experienced in store ownership, can give references. W. P. Beardsley, 1959 McCollum, San Luis Obispo, California.

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CALIFORNIA LICENSED PHYSICIAN SURGEONS WANTED: Contact us for registration forms and information on our many excellent opportunities in California. Outstanding openings in GENERAL PRACTICE, INDUSTRIAL AND THE SPECIALTIES . . . associations, assistantships, groups, locations for private practice in NORTHERN, CENTRAL AND SOUTHERN CALIFORNIA. PACIFIC COAST MEDICAL BUREAU agy., 703 Market Street, SAN FRANCISCO, or 510 West Sixth Street, LOS ANGELES.

OPENING FOR ASSISTANT COUNTY PHYSICIAN—303-Bed Hospital. Salary $11,000.00 per year. For full particulars write to Hospital Administrator, Humboldt County Community Hospital, 2200 Harrison Avenue, Eureka, California.

ASSISTANT MEDICAL DIRECTOR. California license, previous experience in chest diseases, prefer married man with United States citizenship. Salary $750.00 monthly, includes furnished modern house; promising future. Accredited bicounty hospital, 219 beds pulmonary diseases, 30 beds rehabilitation chronic illness. Write Medical Director, Tulare-Kings Counties Hospital, Springville, California.

WANTED: EYE, EAR, NOSE AND THROAT PHYSICIAN for twin cities, location Grass Valley and Nevada City. No specialist within 25 miles. Splendid opportunity and wonderful climate. Build to suit, adequate off-street parking space available. O. F. Lang, M.D., Box 1014, Grass Valley, California.

WANTED: GENERAL PRACTICE ASSOCIATE. Salary guarantee. Partnership later. Write Box 157, Malibu, California.

GENERAL PRACTITIONER—Orange County, in Southern California, has stabilized agricultural economy and is rapidly expanding industrially. Population 1950—216,000; 1958—more than 500,000. Santa Ana is medical center of county—ten miles from the ocean, and is the location of the new Santa Ana Medical Center. Owner has established contacts with business concerns who need services of General Practitioner. Immediate practice assured young physician who can meet requirements and standards. Santa Ana Medical Center, 2515 North Main Street, Santa Ana, California.

(Continued on Page 28)

Legal Medicine Session

On Tuesday afternoon, June 24, 1958, the American Medical Association law department is sponsoring a session on legal medicine in the Black Room of the Masonic Temple in San Francisco. The session will begin at 2 p.m. It was at the American Medical Association meeting in San Francisco four years ago that the first such session was held before a capacity audience.

The speakers and subjects to be presented are:

Howard Hassard, San Francisco—"Standard Provisions of Professional Liability Insurance Policies."

Joseph Linder, New York—"General Malpractice Insurance Problems."

Joseph F. Sadusk, Jr., M.D., Oakland—"Expert Advisory and Witness Panels."

C. Joseph Stetler, Chicago—"National Medical Professional Liability Trends."

Pigeon Related to Itching Skin Disorder

The migration of pigeons to suburbs is creating still another hazard for the harassed suburbanite—the danger of being bitten by a pigeon parasite.

Large numbers of pigeons formerly living on office buildings have been driven from city business districts and are now nesting around homes in suburban areas.

When they moved, they carried with them Dermanyssus gallinae, commonly called the chicken mite. The mite lives on blood—usually that of fowl, but on occasion it will attack humans.

Fourteen cases of humans being bitten by chicken mites carried by pigeons were reported in the April issue of *Archives of Dermatology*, published by the American Medical Association.

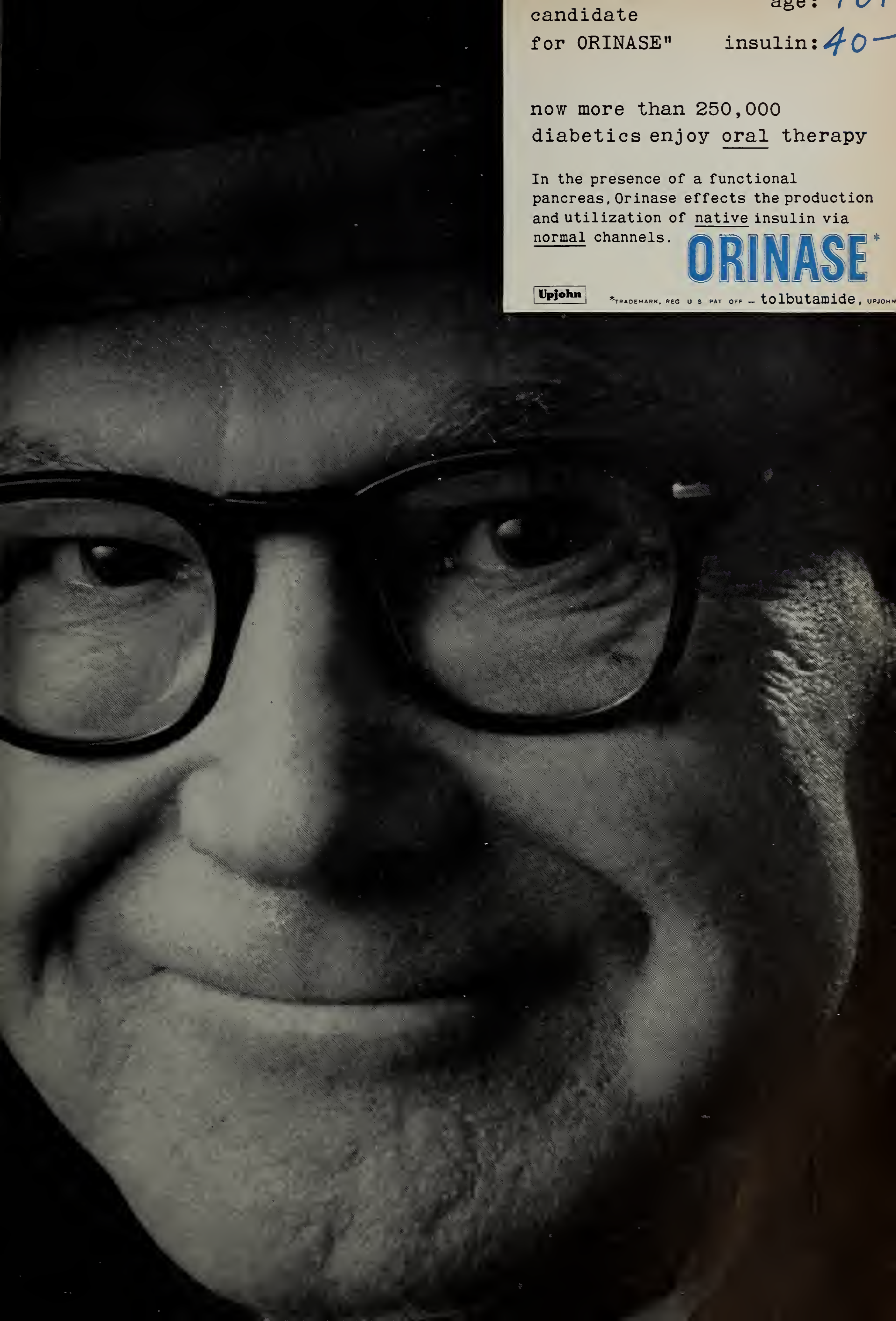
Dr. Gerard A. DeOreo, Cleveland, noted that the medical literature has numerous reports of dermatitis resulting from D. gallinae, but the pigeon has seldom been recognized as a vector.

The commonest skin reaction from the mite's bite was a red spot resembling a mosquito bite. There was usually a clustering of three to six individual red spots. Itching developed a few moments to several hours after the bite had been inflicted.

Successful treatment depends on recognizing that the common pigeon may be the source of mites and eradicating the pigeons' nests.

A number of potent acaricides, chlorophenothane (DDT), chlordane, and lindane, are effective in the destruction of mites. An emulsion containing benzoate, benzocaine, and DDT is a useful repellent when applied to the skin, Dr. DeOreo said.

He concluded that the pigeon should be suspected as a possible cause of itching skin disorders of obscure origin in the spring and summer.



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Salt-Metal Reactions May Cause Ring Rashes

Skin rashes from rings result from a reaction between metal and salt on the skin rather than from "too much acid in the system," according to an Indiana dermatologist.

Writing in the May issue of *Archives of Dermatology*, published by the American Medical Association, Dr. L. Edward Gaul, Evansville, Indiana, said his studies have shown that metals themselves don't cause skin rashes.

But when salt—either the normal salt formed on the skin after perspiration or table salt—reacts with metals and/or alloys a skin rash may occur.

Irritations from rings seem commoner than from other metal contacts on the skin, probably because the hands have so many opportunities for exposure to salt. The housewife is most apt to have rings on the fingers; in addition, she is most apt to have her hands in salt.

He noted that eating salted foods like nuts or popcorn can bring large amounts of salt under and around the rings. Many people test the flow of a salt shaker by salting their left hand.

He concluded that a study of jewelry metal might produce alloys sufficiently inert that they would not react in the presence of varying salt concentrations on the skin surface.

Nutrition Plays Small Role in Skin Disorders

(Continued from Page 15)

pityriasis rubra pilaris and Darier's disease. The B vitamins are of little use in modern American dermatology, although the use of nicotinic acid can be credited with the eradication of pellagra in this country.

"From a dermatological viewpoint, other nutritional factors have mostly only academic interest today; they find little practical application," Dr. Lorincz concluded.

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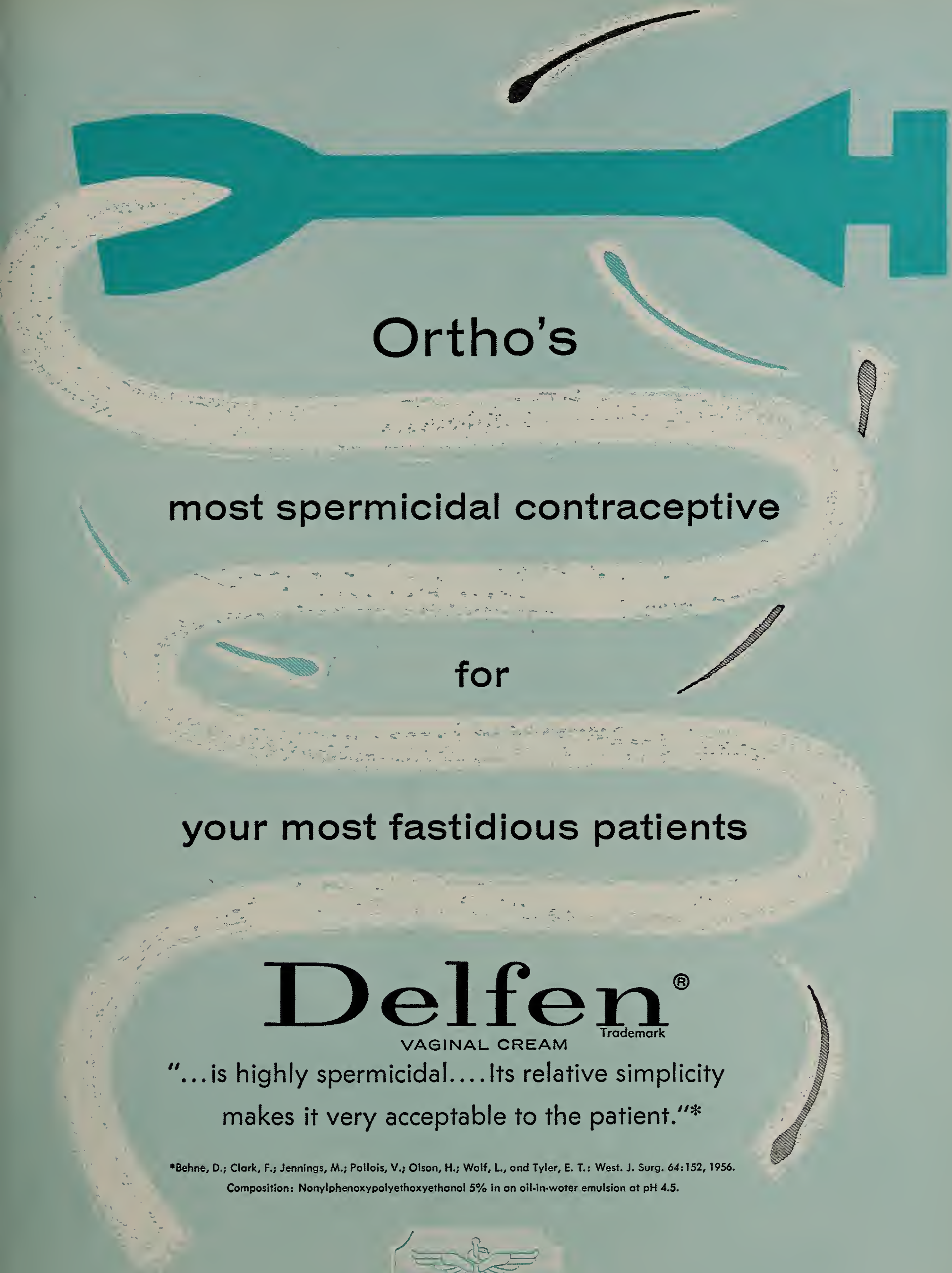

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Smoking Has Various Effects on Eye

Smoking makes the blood vessels of the hands and feet constrict, and it has been assumed that it also causes the vessels of the eye to constrict.

However, a recent study has shown that "this is not necessarily true."

The study, made by three San Francisco physicians, showed that smoking constricts the retinal blood vessels in a few people, changes them not at all in most, and may actually dilate them on rare occasions.

The explanation to these apparently inconsistent results probably lies in the fact that nicotine "is a drug with multiple actions and varying effects," the physicians wrote in the April issue of *Archives of Ophthalmology*, published by the American Medical Association.

The authors are Drs. Jerome W. Bettman, Victor Fellows, and Peter Chao of the Division of Ophthalmology, Stanford Medical School, San Francisco.

The average Californian is sick between five and six times a year. His illnesses are about half acute and about half chronic. He averages 24 days of disability a year.

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1. Proctor, R. C.: Dis. Nerv. Sys. 18:223, 1957.
2. Feuss, C. D., and Gragg, L., Jr.: Dis. Nerv. Sys. 18:29, 1957.
3. Coats, E. A., and Gray, R. W.: Dis. Nerv. Sys. 18:191, 1957.

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(Continued from Page 18)

PHYSICIANS WANTED *(Continued)*

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GENERAL PRACTITIONER wanted for Medical Group in San Gabriel Valley near Los Angeles. Excellent opportunity. Box 94,240, California Medicine.

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WANTED: General Surgeon, board eligible or certified, with training and/or experience in orthopedic surgery. Salary, $1,000 a month; increase in 6 months; partnership, one year to eighteen months. Walter M. Balfour, Clinic Manager, Marysville Medical Clinic, 725 Fourth Street, Marysville, California. Telephone: SH 2-2351.

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CALIFORNIA—PULMONARY DISEASES—Staff appointment available July 1 in accredited bicounty hospital, 219 beds pulmonary diseases, 30 beds rehabilitation chronic illness. Starting salary $600 monthly, includes furnished modern house for family. Must be eligible California licensure. Write Medical Director, Tulare-Kings Counties Hospital, Springville, California.

SITUATIONS WANTED

GENERAL SURGEON, 37, Board qualified, University Center trained, presently in private practice in California, desires new location or association with another surgeon in medium sized community. Box 94,175, California Medicine.

(Continued on Page 34)

Alcohol's Effect on Common Cold

Alcoholic beverages are helpful in fighting the common cold—at least in the early stages.

This was reported by Dr. Noah D. Fabricant, Chicago otolaryngologist, in the March issue of *Archives of Otolaryngology*, published by the American Medical Association.

Dr. Fabricant said, "Although consumption of alcohol is obviously not a cure for the common cold, its beneficial role in some persons can neither be minimized nor dismissed."

Alcohol has long been a popular remedy for warding off colds after chilling or exposure in inclement weather. It increases blood circulation, provides warmth and comfort, induces drowsiness, and promotes a desire to rest.

According to Dr. Fabricant, "Once acted upon, the decision to rest in bed can serve a most useful purpose. Rest in bed diminishes the severity of the common cold, limits its spread to others, and reduces the frequency of complications."

But alcohol is valuable in fighting a cold in still another way.

A cold is preceded by a lowering of the temperature in the nasal passages and a constriction of blood vessels within the nose. The passages then become dry and the defense against the cold is weakened. This paves the way for acute infection, the physician said.

The prime intent on discovering a cold in its early stages is to restore the nasal passage to its normal state. This can best be done by raising the temperature of the membranes.

In the test conducted by Dr. Fabricant, it was found that the nasal temperature could be raised after the consumption of alcohol.

Twelve persons, two with symptoms of a cold, were given one ounce of a blended whiskey. Temperatures were checked before the test began and again at 15 minute intervals following the taking of the alcohol.

All twelve showed a nasal temperature rise within 30 minutes.

According to Dr. Fabricant, the results indicate the physiological usefulness of an alcoholic beverage during the very early stages of the common cold.

Epidemic Diarrhea Caused by Virus

Two outbreaks of epidemic diarrhea among hospitalized infants were found to have been caused by a virus, a group of New York researchers have reported.

This is "the first instance in which a virus isolatable by laboratory methods has been shown to be a cause of diarrhea," they said in the March 29

(Continued on Page 34)

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CLASSIFIED ADVERTISEMENTS

(Continued from Page 28)

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OBSTETRICIAN-GYNECOLOGIST. Board eligible. Licensed in California and Washington. Age 34, single, military obligation completed. Desire association or group, preferably in San Francisco Bay Area, or Monterey area. Available July, 1958. Box 94,280, California Medicine.

PEDIATRICIAN, University Hospital training, Board eligible, California license, military service completed, seeks association. Available early 1959. Box 94,290, California Medicine.

PHYSICIAN, AGE 33, family, military service completed, Board certified General Surgery, D.N.B., desires association with individual or group. Small community and general practice no objection. Box 94,195, California Medicine.

PHYSICIAN, EDUCATOR, ADMINISTRATOR, desires to relocate in California. Presently a Medical Dean. Trained and experienced in Internal Medicine, Preventive Medicine, and all phases of medical and hospital administration. Under 50 years. Desires clinical or hospital administrative post. Box 94,270, California Medicine.

UROLOGIST: Board eligible, 36 years old, married, Protestant, military service completed, licensed in California. Presently completing third-year urology residency Jefferson Medical College Hospital in Philadelphia. Additional two years surgical residency training. Undergraduate studies University of California at Berkeley. Wishes solo, partnership or group practice. Available in 2 months. Box 94,275, California Medicine.

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ROTATING INTERNSHIP—Approved 250 bed general hospital in San Francisco, with active teaching service. Stipend $300.00 monthly and maintenance. Applicants must be eligible for California license. Contact: EDUCATION COMMITTEE, St. Luke's Hospital, 1580 Valencia Street, San Francisco, California.

SURGICAL RESIDENCY—Approved 250 bed general hospital in San Francisco. Three year approval, large out-patient department and clinic service. Stipend $325.00 per month first year, plus maintenance. Contact: EDUCATIONAL COMMITTEE, St. Luke's Hospital, 1580 Valencia Street, San Francisco, California.

(Continued in Back Advertising Section, Page 60)

Tetanus-Diphtheria Toxoid Called Safe for Adults

Adolescents and adults can now be immunized against diphtheria and tetanus without developing severe side reactions, a recent study has shown.

This was reported in the March 29 issue of the *Journal of the American Medical Association* by three California physicians who inoculated 62 adults with a new combined toxoid with favorable results.

(Continued on Page 36)

Epidemic Diarrhea Caused by Virus

(Continued from Page 28)

issue of the *Journal of the American Medical Association.*

Bacteria or parasites are known to be a cause of some diarrheal diseases, but in about 65 per cent of cases, no bacterial or parasitic cause can be found. It had generally been assumed that a number of viruses may be responsible for these illnesses, but a definite viral agent had never been isolated, they said.

In the New York outbreaks, ECHO virus type 18 was found to be associated with every case.

The two outbreaks occurred in July 1956 at New York Hospital. Twelve of 21 infants in the premature nursery became ill. A detailed survey failed to show any noninfectious or bacterial cause for the outbreak.

Four days after the end of the first outbreak, a second occurred in a sick infant ward in the same hospital. Five babies became ill. The infection was apparently carried from one nursery to the other by a nurse from whom the virus had been isolated.

The authors listed several points that give support to the conclusion that the virus called ECHO 18 caused the outbreaks: ECHO 18 was isolated from every infant who became ill, but not from those remaining well. The virus was found among infants in the premature nursery only during the course of the outbreak; it was not present before or after the epidemic ran its course. The second outbreak occurred after exposure to a nurse known to be infected, again showing a definite association between the presence of the virus and the appearance of diarrhea.

Of some interest was the course of the illness in premature infants, the physicians said. Considering their relatively poor response to bacterial infection, these infants "withstood their illness surprisingly well." The disease was mild and they recovered soon.

The authors are Dr. Heinz F. Eichenwald, Alexander Ababio, B.A., and Drs. Albert M. Arky and Alan P. Hartman of the department of pediatrics, the New York Hospital-Cornell Medical Center.

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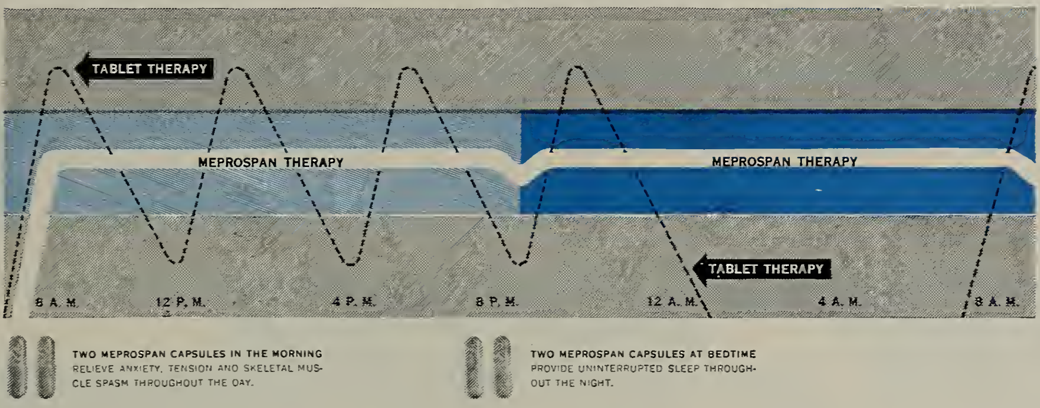

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Tetanus-Diphtheria Toxoid Called Safe for Adults

(Continued from Page 34)

Childhood immunization against diphtheria and tetanus is effective and safe. There has been a growing need for extending this childhood program into adolescent and adult groups, but, unfortunately, the frequency of their severe local and systemic reactions to existing toxoids has prevented widespread use, the doctors said.

They added that previous studies indicated that a satisfactory combined tetanus and diphtheria toxoid for adults could be produced and used. The new serum (Adult Dip-Tet) was prepared in accordance with specifications contained in the National Institutes of Health's minimum requirements. Used by the armed forces since 1955, the toxoid has only recently become available to physicians through normal distribution channels.

In the California test, 62 adults, more than half of whom were over 35 years of age, were given two injections of the combined toxoid at four-week intervals.

"All 62 adults developed a good, solid immune

(Continued on Page 42)

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Butterfat	90.00 "	10%
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Milk Sugar	19.00 "	4.7%
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"Furthermore, the duration of this beneficial action is prolonged sufficiently to make this method of treatment of practical clinical value."

Riseman, J. E. F., Altman, G. E., and Koretsky, S.:
Nitroglycerin and Other Nitrites in the Treatment of
Angina Pectoris. Circulation (Jan.) 1958.

[*] 'Cardilate' brand Erythrol Tetranitrate SUBLINGUAL TABLETS, 15 mg. scored

BURROUGHS WELLCOME & CO. (U.S.A.) INC., Tuckahoe, New York

Tetanus-Diphtheria Toxoid Called Safe for Adults

(Continued from Page 36)

status in response to two injections," the physicians reported. More important, they said "no severe local or systemic reactions were encountered following either of the immunizing injections."

They also noted that further immunization can be obtained with the use of a third or booster shot. This should be given 6 to 12 months later.

The physicians—Beryl S. Graham, Los Angeles, and Henrik L. Blum and Thomas W. Green, both of Berkeley—feel that "these results show that the excellent childhood immunization program can be extended into adolescence and adulthood without fear of excessive reactivity and with confidence that good antitoxic immunity will be obtained."

A Physician With a Record of His Own

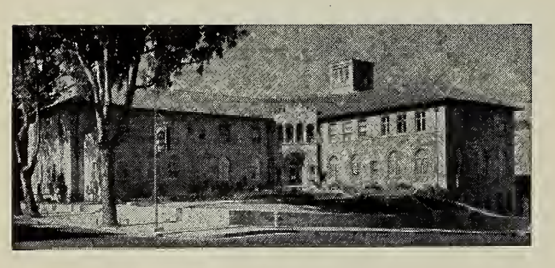
It's possible that Dr. H. Dean Hoskins, a plastic surgeon of Oakland, California, holds some kind of a record as a family man.

He recently became the father of quadruplets—three girls and a boy, bringing the number of children in his family to seven. The attending obstetrician, Dr. Charles Hayden, believes that Dr. Hoskins is the only physician in the United States who can boast that he is the father of quadruplets.

Mrs. Hoskins' father was the late Dr. Paul J. Hanzlik, professor of pharmacology at Stanford University Medical School.

The average Californian sees a doctor five times a year. Only 52 per cent of them carry health insurance.

—*Health in California*



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American Medical Association Supports Legislation for Handling Aviation Medicine

The American Medical Association has announced its active support of legislation pending before Congress which would establish a separate medical office within the Civil Aeronautics Administration.

In a letter to Sen. Warren G. Magnuson, chairman of the committee on interstate and foreign commerce, Dr. F. J. L. Blasingame, American Medical Association general manager, said, "The American Medical Association is seriously concerned with the present state of civil aviation in so far as medical matters are concerned."

He continued, "Increasing air traffic and the jet age, accompanied by increased physical demand on pilots, require a substantial revision in the present method of handling many aspects of aviation medicine."

Specifically, the American Medical Association is urging passage of Senate Bill 1045 which is before Senator Magnuson's committee.

Dr. Blasingame pointed out that the American Medical Association now has a permanent committee on aviation medicine, and that the association's support of the bill is based on the recommendations of that committee.

The letter also said that physical standards for, and medical evaluation of, fliers "must be carried out by physicians experienced in aviation medicine, and medical determination should be conducted by physicians . . . who have the necessary professional qualifications and experience."

Provisions of the bill include:

—Transfer of the rule-making authority for medical standards from the Civil Aeronautics Board to the Civil Aeronautics Administration. Unlike the CAA, the Civil Aeronautics Board does not have qualified medical personnel.

—Creation of the "Office of Civil Air Surgeon" which would be directly responsible to the Civil Aeronautics administrator.

—Establishment of a Civil Aeronautics Medical Research Laboratory.

Dr. Blasingame's letter adds, "While we do not suggest that this bill is the only method by which the needed reforms . . . may be accomplished . . . we do believe that it represents the best mechanism currently proposed for accomplishing reforms."

All known types of brain strokes have been classified and defined for the first time in a study which provides for exchange of information among researchers. Copies of the study titled "A Classification and Outline of Cerebrovascular Diseases" are available at the National Institute of Neurological Diseases and Blindness, Bethesda 14, Maryland.

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Public Health in the Space Age

THOMAS PARRAN, *M.D.*, Pittsburgh, Pennsylvania

• Medicine and public health in the space age will work in closer partnership. Both will draw more widely from the behavioral sciences. More spectacular conquests in space will come before man learns much more about man himself and his interrelationships with his fellow man. The past century has been the era of the biological and physical scientist; we are now entering the century of the psychological man. There is a fusion of the sciences—biological, physical and social—in medical research, teaching and service.

One is apt to think of public health as a specialty of medicine. Equally valid is the concept that medicine is a specialty of public health, which draws from more of the basic sciences.

Epidemiology is concerned with noninfectious conditions and is moving into the epidemiology of health. The spectacular gains in life-saving in this country during the past half century are unrepeatable phenomena. The major gains in the future must come in the older ages.

You have given me a challenging subject. Only the Delphic oracle could handle it properly and we are much too close to man's tentative breakthrough into outer space to know what this event will mean in the daily lives of men and women. In any interpretation, you have asked me to discuss the public health of the future. My calculated guess must be based on the relatively recent breakthroughs to new knowledge in the many areas from which public health and medicine draw vitality.

An audience such as this is apt to think of public health as a specialty of medicine. Equally valid is the concept that medicine is a specialty of public health, which draws from more of the basic sciences and carries an over-all responsibility to society. Both medicine and public health reflect the social structure in which they operate and of which they are essential parts. Their scope and content are governed by the economic, military and political climate as well as by the status of scientific knowledge.

It seems certain that man will make far more spectacular conquests of space than the present distance from the earth through which the new gadgets are spinning. Their orbits represent relatively few inches in comparison with distances in our imprecisely known universe.

Such future conquests of space probably will be made long before we learn much more about man himself and his interrelationships with his fellow man. At present, almost limitless funds—and a large proportion of the best brain power in every country—are available to expand the space age and to explore other aspects of the physical and biological sciences.

Current support of the behavioral sciences, however, continues at a low level. In a report, "National Support for Behavioral Sciences," issued in Washington in February, 1958, 15 distinguished social scientists urged that our nation use those skills more

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Dean, Graduate School of Public Health, University of Pittsburgh.

Guest Speaker's Address: Presented before the Section on Public Health at the 87th Annual Meeting of the California Medical Association, Los Angeles, April 27 to 30, 1958.

fully to improve international relations and foster intellectual and moral power. As the report points out, Russia lags behind the West in the biological, sociological and social factors of behavioral science; the behavioral and medical sciences in general have not been pursued in Russia with the same zeal as have the natural sciences; and adherence to Marxist and Pavlovian doctrines has retarded much of Russian neurophysiology and psychology, while political considerations have limited also the objective investigation of human genetics. In view of this, the group believes that the United States should capitalize upon its present position of leadership and move ahead with vigor.

Certain areas of basic research are suggested in the behavioral sciences which can be applied to bettering human life and to strengthening national defense. These areas of study include effects of drugs on behavior and human performance, human capabilities and limitations under stress, creativity, better utilization of personnel, the decision process, group functioning, measurement of the economic process, effects of cultural differences and change, and man-machine system design.

It has been pointed out[3] that public health is an application of technology, resting upon the joint pillars of natural science and social science. During the past century, the natural science pillar has been greatly strengthened; but "until both the pillars are strong, the arch of public health will not be firm." In identifying the causes of disease, and in knowing how to control and prevent them, the primary concern is man's various relationships with his environment. In the past, great emphasis has been placed on the relations between man and the physical and biological aspects of the environment. Now, consideration also is being given to the social aspect of the environment, especially as it interacts with biological and physical stresses. It is well recognized that stress effects are both psychological and physiological; emphasis must be given to fuller understanding of psychological factors in stress and disease reactions.

In May, 1957, we held a series of seminars at the University of Pittsburgh as a part of the ceremonies inaugurating our new chancellor and dedicating our new public health building. The themes were: "Contributions of the Sciences to Public Health in the Years Ahead," and "Fusion of the Sciences for Better Health," as part of the over-all theme, "New Dimensions of Learning in a Free Society." Some of what I have to say here is derived from this experience; in other instances, I shall quote more precisely.[8]

Dr. Warren Weaver, vice-president of the Rockefeller Foundation said, "During these recent years when there has been a considerable lessening of the early distinctions between public health and medicine, there has also been a great decrease in the sharp distinctions between the physical sciences and the biological sciences—there is at present no boundary within the biological sciences across which the physical sciences cannot usefully pass."

In this process of infiltration, there is the resulting integration of all biological sciences into a continuous and more meaningful whole. The viruses are a case in point. In certain circumstances they are inert chemicals; in other circumstances they are reproducing organisms with emergingly known genetic behavior—and disease agents of grave seriousness. Who has jurisdiction here? Is it the physical scientist, the biologist or the physician? Clearly, we need to submerge the old distinctions and preserve the interrelations and wholeness of nature.

Dr. Carlyle F. Jacobsen, executive dean for medical education of the State University of New York, referred to the long transition of medicine from the ritual of the priest to today's medicine of the scientist. He observed that the expansion of medical knowledge and teaching in recent years has been dominated by the developing scientific disciplines of medicine itself, absorbing also to itself segments of knowledge from other disciplines in the university so that today biological and natural sciences are so closely interwoven with medicine as to have become the very matrix of medical thought. Physics, chemistry and biology are, indeed, its language and tools. We agreed as to the widespread dissatisfaction about medical education and medical practice despite the goodness of our scientific achievements, and noted that the same is true of public health education and practice.

The past century has been called the era of the biological and the physical scientist. Dr. Fillmore H. Sanford, former director of the American Psychological Association, believes "that we are indeed entering the century of the psychological man—or of the psychological-sociological-anthropological man." He said that "perhaps two hundred years from now, the first half of the twentieth century will be noted as the period in which society moved away from its preoccupation with man as an economic creature of predictable and potentially controllable emotion, ideation, motive, habit, attitude, aspiration and creative impulse."

My colleague, Dr. Robert E. Olson, drew attention to the same problems in public health: "The biochemist who studies the kinetics of a purified enzyme system has only a few variables to control; the physiologist who studies the metabolism of an intact organ in an animal has many more to consider; the physician who studies a disease process in an intact human animal has even more parameters to correlate and attempt to control in the diagnosis and treatment of his patient. But the public health scientist who is studying the behavior of populations is dealing with an infinitely complex situation, to which, in many instances, only statistical solutions are possible."

In the past, certain factors known to affect public health adversely could be engineered out of the physical environment. Today, there is needed a revealing analysis of the social environment which blocks the way of abundant public health. Most of the degenerative diseases, which constitute our major health problems, have psychosocial components. The so-called psychosomatic diseases such as hypertension, peptic ulcer, rheumatoid arthritis, thyrotoxicosis and schizophrenia have direct psychiatric determinants; others such as obesity, alcoholism and coronary artery disease have at least indirect relations to sociocultural patterns of diet, anxiety-reduction and stress.

Public health needs to be increasingly concerned both in research and teaching with a comprehensive ecological approach to problems of disease and of health if we are to be successful in understanding better the degenerative diseases and mental illnesses. The clinician must expand his horizon to include the role of the family and the community in relation to the disease problem at hand. By the same token, the public health scientist must not be content solely with statistical solutions and epidemiological inferences in his analysis of these knotty problems. The meeting ground for both lies in the interdisciplinary teamplay of a group from many fields of science who are in sympathetic agreement with each other, and who have access to the experimental laboratory, the patient, the family and the community, if need be, in the pursuit of the problem under study.

Those of us who use epidemiological and biostatistical methods primarily should remember that acute clinical observation may supply the clue, even though it be made only on one patient. Claude Bernard, French physiologist, once said, "I do not reject the use of statistics, but I condemn not trying to go beyond them."[1]

I am convinced that the natural philosophers will, in the future as in the past, contribute to our understanding of life, of natural laws and of the universe.

Viewing the sciences in historic perspective, one can detect periodicity. There have been periods of fusion and the reverse—a disintegration of effort. In the earliest period, the natural philosophers were the universal scientists, exploring all of life in order to gain greater knowledge of its meaning.

In due course, approaches become available for the study of one or another aspect of life and living creatures. This led to specialization which burgeoned medical research and medical teaching until a specialist came to be defined as a person who knows more and more about less and less. There are signs that this trend is being reversed—that a scientist needs to have more than one skill under one skull—and that through a fused spectrum of scientific knowledge, future progress lies. This trend, apparent in medical and public health practice, is to see the patient and his environment as a whole and especially to interpret the dynamic interactions in these man-environmental interrelationships.

We can anticipate great changes in the next decades in public health science and practice. I see unbounded opportunities for the health sciences in the service of mankind, with health departments taking leadership in achieving an equal opportunity for health to which all men of good will must aspire for all peoples, within the limits of their biological and genetic capacities.

It is recognized that epidemiology does not deal solely with infectious diseases. It was through epidemiological investigations that the nature of pellagra and of goiter was discovered. There is an epidemiology of suicides, of accidents, of cancer and of atherosclerosis. Some beginnings have been made in the epidemiology of mental health and disease. I have pointed out elsewhere[4] the need for intensifying greatly these types of epidemiological studies.

When paralleled by biochemical studies, we may, by the epidemiological method, identify disease-prone individuals in a population before they become sick. Once these individuals with biochemical differences can be identified, it may be possible to control internal factors as well as the external environments and thus retard the progression of disease. Almost certainly, there are such psychosocial and nutritional factors. Such knowledge may be to the prevention of degenerative diseases what immunization and good sanitary engineering have been to the prevention of communicable diseases.

Dr. Charles Best of Toronto draws attention to the fact that the behavioral and the biological or biochemical aspects of man are not separated by an impassable gulf. In fact, man's unique central nervous system is in intimate contact with all cells and exerts profound effects upon cellular metabolism and function through direct nervous as well as indirect hormonal action and is in turn influenced by them and other chemicals such as the lysergic acid and promazine derivatives. The Communications Information Center for autonomic functions, the hypothalamus, with the adjoining reticular substance, not only controls blood pressure, pulse rate and gastric motility, but also mediates impulses which modify appetite, sleep and the secretion of pituitary hormones. These concepts open up a Pandora's box of scientific miracles.

But in our preoccupation with these newer and complex problems, public health workers should continue emphasis upon traditional bases for action. We need also to apply to the newer problems the principles which have been learned from the past. We need to finish the job of eradicating diseases such as tuberculosis, of holding the line against the intestinal diseases, of curbing the many and strange viral infections, of reducing accidents and of lessening perinatal mortality.

We should not forget that, for most of the world's population, many ancient plagues still are unconquered. For example, every one of us in public health is heartened to know that world-wide action is being taken against malaria under the leadership of the World Health Organization. Backed by the best experts from all around the world, the strategy calls for *eradication.* It is a bold concept which must be realized in any one geographic area without delay if the malaria-carrying mosquitoes are not to become resistant to the insecticides now available. President Eisenhower has urged that the project be carried forward and Congressional leaders of both parties have provided strong support in hard dollars to make this venture a reality.

As one looks back, man has been concerned over the centuries with getting enough food to meet his basic metabolic needs and with controlling his microbiological environments. Neither objective is met for most of the world's peoples. The continued growth of population—estimated at 1.6 per cent per year—may continue to outrun increased food production. Consequently, public health must be concerned with problems of natality as well as with those of mortality.

The economy of scarcity has been superseded by overabundance in the United States. Hence, we are concerned here with metabolic disorders, obesity, alcoholism and effects of smoking, which are disorders of excess rather than deficiency. Even the concept of stress as a cause of mental ill health connotes excess—the impact of more challenges than the organism is able to bear. Sir Geoffrey Vickers said: "Our hazards from excess range from excessive nuclear radiation through excessive smoking, to the excessive consumption of ice cream—products which have in common the fact that our superabundance is our own desiring."[9]

Recently, George J. Stolnitz reported on "A Century of International Mortality Trends." He concluded that the rise in life expectancy over the past century probably has been more far-reaching than the gains of the previous two thousand years; that the increases in western countries in the expectation of life at birth since 1890 have been more than double the gains over the preceding half century; and that many of the mortality trends in western life changes are "unrepeatable phenomena." It is irrefutable that major gains of the future in lifesaving must come in the older ages—beyond 60. In documenting this last point, Stolnitz calculated that if all mortality before age 45 were eliminated, the resulting gains would be no more than half of the rises (in life expectancy at birth) since the beginning of this century.[7]

There is much speculation among demographers concerning what will be the future trend in life expectancy among older people in this and other Western countries. Two hypotheses are:

1. The present population in the older age groups carries in their bodies the many scars incurred over the years as a result of the effects of infectious diseases, malnutrition and other physical results; these scars have accelerated the aging processes, adding to what might be termed normal aging. Hence, we have seen only a slight increase in longevity among older ages. By contrast, the oncoming generation, protected against these physical insults (against trauma) by sanitation, immunization and better nutrition, will age more slowly and hence have a better chance for longer living.

2. The opposite hypothesis is that we—the present oldsters—represent the survival of the fittest and perhaps come from the better genetic stock; and that owing to our current methods of saving the less fit, the stronger biological characteristics of the population are deteriorating.

As yet, there is no conclusive evidence on either point.

Each new breakthrough of a discovery in the health sciences and each shift in living patterns will produce additional tasks for public health. Certainly, we are agreed that additional responsibilities have been produced by urbanization, by industrialization, by the major threats arising from air pollution and even from the density of automobiles on the highways. Yet none of these serious problem areas is solved.

Added to the familiar environmental hazards is, of course, that new factor in man's environment—nuclear fission—and its use for the production of power. It has been estimated that the current world requirements for energy are about the equivalent of four billion tons of coal annually, and that fifty years from now this requirement will have become at least five times as great. The known supply of fossil fuels is inadequate. In the absence of practical methods for harnessing solar energy and of learning the secrets of photosynthesis, nuclear power is being developed on a huge scale. This will increase at an ever accelerating pace with the backward, power-hungry nations getting into the act but having little comprehension of the dangers involved.

The disposal of the "radioactive garbage" poses a whole series of enigmas, not yet solved by the nations most technically advanced in nuclear fission. Such problems will confront us increasingly. We must develop the organization, the personnel—and, most important of all—acquire the knowledge with which to cope with these problems.

Radiation biology now offers many new fields for research and for the training of persons to deal with them. The Graduate School of Public Health of the University of Pittsburgh is pioneering in such a program of research and in the training of new types of specialists who can combine the knowledge of the traditional health sciences with the newer knowledge of nuclear science. This expanded area of health training will be invaluable in maintaining the health of mankind as we enter nuclear competition.

Thus far I have talked about the health of the public. Yet most of the members of this California Medical Association are properly concerned with the proper diagnosis and the best treatment one can give to the individual patients who seek help. *Cure* is what they ask you to provide. Failing that, they seek the alleviation of their symptoms—especially pain and disability.

When you are called upon to deal with the complicated problems of your patients with a chronic illness, it is frustrating that so often you alone can do little except to prescribe palliative measures. How often do you contemplate the multiple causes, the influence of time, the social determinants in the patient you see today for the first time with advanced disease? Even though you understand these multiple factors—most of them nonmedical—frequently little can be done. Surely our science should move more rapidly toward an understanding of the early predisposing factors of latter chronic ill health.

"Laws and Institutions," wrote Thomas Jefferson, "must go hand in hand with the progress of the human mind. As that becomes more developed, more enlightened, as new discoveries are made, new truths disclosed, and manners and opinions change with the change of circumstances, institutions must advance also, and keep pace with the times."[2]

Many Americans believe that our present methods of dispensing medical care have not kept pace with the advances in medical science. We can agree with Dr. W. P. Shepard, of the Metropolitan Life Insurance Company, that the quality of medical care currently given in this country is better than any peoples have ever received at any earlier time. But he states the paradox: "There is greater public unrest over the way medicine is practiced today than there ever has been before." His diagnoses—I use the plural because he sees a multiple causation—include the economics of medicine, how paid for and why is it so costly; lack of general practitioners; long delays in waiting rooms; short, abrupt interviews; the long circuit from one specialist to another.[6]

All of us are concerned about maintaining our medical freedoms, since in most other countries medicine has come under greater public control than in the United States. Shepard proposes (a) scientific analysis of the underlying causes of public unrest; (b) efforts to create better public understanding, and (c) some change in the direction of medical education. While I agree, I should like to go further and—at the risk of being less scientific—be more dogmatic.

The pattern of health care is of concern to all of the people, as well as to us, the public health workers. There are no longer two sides of the coin: (1) on the one side, the public health people serve a population; (2) on the other side, the private practitioners dispense care to individuals. In this shrinking world, both must operate together to promote the total health of the population served. This is no time for jurisdictional disputes as between "private practice" and "public health."

The best of modern medical care cannot be "dispensed" in the traditional one doctor, one patient relationship. The time is long passed when any one physician can carry in his brain all the medical knowledge of the day and in his bag—of whatever size—the best means of dispensing it. Consultation should be readily available without taxing unduly the time, the purse or the energy of the patient. But the modern equivalent of the family doctor should be the central figure in the scene. Hence, group practice seems to many the inevitable answer.

Illness strikes unpredictably in a family; it is predictable for population groups. Therefore, it is an insurable risk—whether for college students, members of labor unions, the civil service or the aged. The American people believe in the principle of insurance and have demonstrated that they want it. (Labor-management health and pension contracts alone—developed since 1944—now cover some 14,000,000 workers and their dependents.)

Persons having one or another type of insurance against illness are becoming increasingly aware of the gaps in their coverage as they read the fine print in the contract. Comprehensive insurance seems necessary in order to provide the comprehensive care which subscribers want and need.

Medical education is too narrowly confined to diagnosis—especially diagnosis of the medical museum piece—and to treatment; too unaware of the opposite extremes of the spectrum—prevention and rehabilitation. Both need to be brought into sharper focus.

Great as has been the revolution in medical education in the United States since the Flexner report of 1910, the change during the next decades will be equally profound. The improved curriculum will include the diagnosis of health and the technique of its maintenance; predictive diagnosis of future ill health; the epidemiology of health in family and larger social groups. A continuing problem will be that of reconciling the need for deeper knowledge (specialization) with the necessity of integrating knowledge. There will be more concern with, and knowledge of world health.

Medical education needs to provide more physicians and other health workers. We are not producing them in sufficient numbers even to keep pace with our burgeoning population. The American people will not accept less medical and health care; they demand more of it—more readily available and of better quality.

We must not only meet the health needs of our own people but do our share in helping our less fortunate neighbors. American technology in the health sciences is warmly welcomed in other countries when given by qualified and sympathetic workers. In the Soviet Union last year, I was impressed by the fact that more physicians and other health workers are being trained than will be needed within the country itself. The same is true of other technologists.[5] They are making an intensive effort to train groups of physicians and other health workers in the language and customs of other countries in the East. We face real competition from the Soviets in giving technical aid. They even have a special institute working on problems of hospital design applicable to conditions in southeast Asian countries.

Technological improvements in dispensing medical care may stretch the physician's effective time somewhat, but no techniques or gadgets can replace the leisurely, wise, understanding counsel that the patient seeks and expects from the physician. Herein lies healing power beyond all the miracle drugs of modern vintage. More and better brains among our oncoming generations should be brought into the health sciences. To do this, present financial and other barriers must be lowered.

Medicine and public health in the space age will work in closer partnership. Both will draw more widely from the behavioral sciences.

To meet nuclear hazards concomitant with the space breakthrough, American scientists must shoulder their share of world leadership by developing the organization, training personnel and pursuing the research vital for survival as man probes deeper into the secrets of a shrinking cosmos.

The shape and form of health service will mirror the society it serves. Inevitably, there will be sharper focus upon prevention of disease and disability in the individual as well as far more emphasis upon the rehabilitation of those for whom preventive measure have failed. The care of chronic patients will achieve professional equality with the care of acute illness. The changes in medical practice will reflect the deeper social conscience which maintains the equal right to health and life as a prerogative of every American.

As to individual physicians, whatever their specialty, they have the golden opportunity to recapture, in the space age, that larger place which our ancestors occupied in past generations. As we become unselfish servants of humanity rather than technicians in pursuit of personal goals, we shall achieve the larger role.

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16a-Methyl Corticosteroids

A New Series of Anti-Inflammatory Compounds; Clinical Appraisal of Their Antirheumatic Potencies

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• Four new derivatives of hydrocortisone, each containing in common a methyl grouping at the 16a-carbon position of the steroid molecule, have been synthesized and are being studied in human subjects. The compounds are 16a-methyl 9a-fluoroprednisolone (MK-125: hexadecadrol), 16a-methyl 9a-fluorohydrocortisone (MK-126), 16a-methylprednisolone (MK-110), and 16a-methylhydrocortisone (MK-117). Biologic tests in animals have indicated that these analogues exhibit, in varying degrees, striking alterations of several physiologic properties, including enhanced anti-inflammatory activity unassociated with corresponding disturbance of electrolyte metabolism.

In the present study preliminary observations of the effects of the four new compounds were made in patients with rheumatoid arthritis. Clinical estimates of the antirheumatic potencies of the compounds, as compared with prednisolone, were accomplished by determining the milligram dosages required to maintain similar degrees of improvement of active rheumatoid manifestations. The approximate antirheumatic potencies of the compounds, on an average, were gauged as follows: for 16a-methyl 9a-fluoroprednisolone, about seven times greater than prednisolone; for 16a-methyl 9a-fluorohydrocortisone, about three times greater; for 16a-methylprednisolone, approximately one-third greater; and for 16a-methylhydrocortisone, about 70 per cent that of prednisolone. In the dosage used, none of the compounds promoted discernible salt and water retention.

These observations would indicate that 16a-methyl 9a-fluoroprednisolone (hexadecadrol) possesses greater anti-inflammatory potency per milligram than any steroid yet produced. The therapeutic efficiency of the compound on long-term administration is being studied.

IT IS NOW ESTABLISHED that the biologic properties of hydrocortisone and cortisone may be altered quantitatively, sometimes selectively, by substituting certain chemical groupings and by making minor configurational changes in molecular structure. During the past five years chemists have worked diligently to design synthetic steroid compounds that could be applied as treatment agents more successfully than the naturally occurring hormones—steroids which ideally would retain powerful anti-inflammatory action but be free of the physiologic properties which induce deleterious effects. Hundreds of synthetic compounds have been prepared and tested in animals; many of these have been investigated clinically and a few have been introduced commercially as suppressive drugs for rheumatoid arthritis and other responsive conditions. Of the modified compounds that have been made available, some possess advantages in one respect or another, but as yet none is divested of the major deterrent features of corticosteroid therapy, and some produce peculiar objectionable reactions of their own. Hence the search for more efficient derivatives has continued.

The development of synthetically modified steroid compounds has proceeded in step-by-step fashion. The first important discovery was that the anti-inflammatory potency of hydrocortisone and cortisone could be enhanced and that some of their other physiologic effects could be changed by substituting halogen atoms at the ninth carbon position of the steroid nucleus.[12,13] As an example, one such derivative—9a-fluorohydrocortisone—was found to be about ten times as powerful as hydrocortisone, per milligram, in respect to antirheumatic and certain other properties.[4,5] However, its sodium-retaining and potassium-losing effects were so excessive that it could not be applied systemically as an anti-inflammatory drug. A second major chemical innovation was the introduction of a double bond between the first and second carbon atoms in the steroid ring, resulting in the production of prednisolone and prednisone.[14] These analogues of hydrocortisone and cortisone have approximately four times the anti-inflammatory potency of their parent compounds—yet their electrolyte activity is not intensified correspondingly.[9,10] The relative dissociation of these two properties has made prednisolone and prednisone useful therapeutically, but the compounds have greater proclivity to promote certain undesirable reactions, notably digestive symptoms, peptic ulcers and cutaneous ecchymoses.[6,8]

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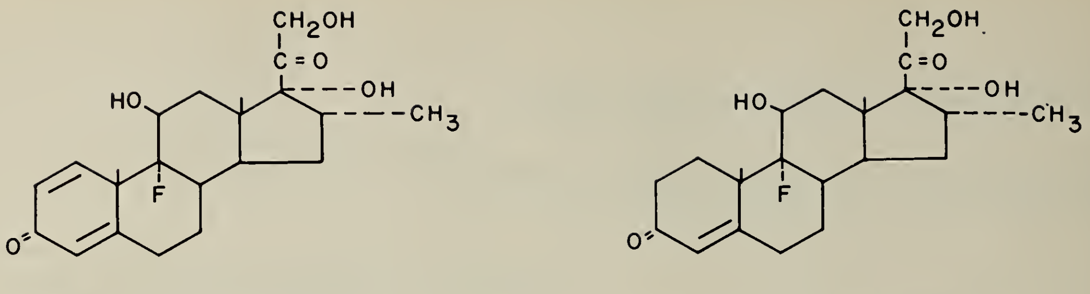
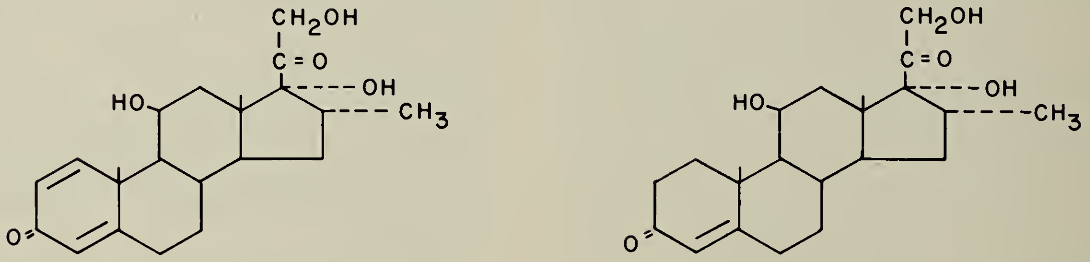


16 a - METHYL, 9 a FLUORO-PREDNISOLONE

16 a - METHYL, 9 a FLUORO-HYDROCORTISONE



16 a METHYL PREDNISOLONE

16 a METHYL HYDROCORTISONE

Chart 1.—Structural formulas of a new series of corticosteroid compounds: 16a-methyl analogues of hydrocortisone.

Another significant discovery was that the addition of a hydroxyl grouping at the 16-carbon position eliminated the excessive electrolyte activity of 9a-fluorination.[3] Triamcinolone (9a-fluoro-16a-hydroxyprednisolone), for example, contains a fluorine atom at the ninth carbon position and is relatively free of salt and water retention when ordinary doses are prescribed. The compound has about the same milligram antirheumatic potency as prednisolone[11] and appears to have little or no additional merit as a treatment agent for rheumatoid arthritis. In 1955 several methylated corticosteroid derivatives were synthesized[15,16] and the effects of one of them—6a-methylprednisolone—have been studied in human subjects. Metabolic and clinical investigations have shown that the sodium-retaining and potassium-losing activities of the drug may be slightly less than those of prednisolone, but the other biologic properties of the two compounds, including antirheumatic effect, are about the same when equal milligram amounts are administered.[7]

16a-METHYL CORTICOSTEROID COMPOUNDS

Recently Sarett and co-workers[1] synthesized a new family of hydrocortisone analogues containing, in common, a methyl grouping at the 16a carbon position of the steroid nucleus. Screening tests for the biologic behavior of these compounds in animals, conducted at the Merck Sharp and Dohme Research Laboratories, indicated that methylation at the 16-carbon position produced striking changes in several physiologic properties, including a decided intensification of anti-inflammatory action and an absence of sodium retention with the experimental dosages tried. The following new steroids were prepared and made available for clinical trial:* 16a-methyl 9a-fluoroprednisolone (MK-125: hexadecadrol), 16a-methyl 9a-fluorohydrocortisone (MK-126), 16a-methylprednisolone (MK-110), and 16a-methylhydrocortisone (MK-117) (Chart 1).

Preliminary assessments of the potencies of various biologic effects of the four compounds, as compared with those of hydrocortisone, were made in laboratory animals.[2] Some of the pertinent results of those studies may be summarized as follows: As to anti-inflammatory activity, as gauged by the inhibition of granuloma formation in rats, the four compounds compared with hydrocortisone as follows: 16a-methyl 9a-fluoroprednisolone, 190 times greater; 16a-methyl 9a-fluorohydrocortisone, 36 times greater; 16a-

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*Supplied by the Merck Sharp and Dohme Research Laboratories, Division of Merck and Co., Inc., Rahway, N. J.

TABLE 1.—*Comparisons of Milligram Dosages of 16a-Methyl 9a-Fluoroprednisolone (MK-125: Hexadecadrol) and Prednisolone Required for Equivalent Degrees of Rheumatic Control*

Patient	Dosages (Mg./Day) for Equivalent Rheumatic Control		Dosage Ratios: 16a-Methyl 9a-Fluoroprednisolone to Prednisolone	Potency Ratios: 16a-Methyl 9a-Fluoroprednisolone to Prednisolone
	Prednisolone	16a-Methyl 9a-Fluoroprednisolone		
1	15.0	1.75	1 to 8.6	8.6 to 1
2	8.75	1.0	1 to 8.8	8.8 to 1
3	20.0	3.5	1 to 5.7	5.7 to 1
4	10.0	1.0	1 to 10	10 to 1
5	12.5	2.0	1 to 6.3	6.3 to 1
6	12.5	1.5	1 to 8.3	8.3 to 1
7	10.0	1.25	1 to 8	8 to 1
8	15.0	2.0	1 to 7.5	7.5 to 1
9	17.5	1.75	1 to 10	10 to 1
10	7.5	1.0	1 to 7.5	7.5 to 1
11	12.5	2.0	1 to 6.3	6.3 to 1
12	7.5	1.0	1 to 7.5	7.5 to 1
13	8.75	1.25	1 to 7	7 to 1
14	15.0	2.5	1 to 6	6 to 1
15	7.5	0.75	1 to 10	10 to 1
16	12.5	2.0	1 to 6.3	6.3 to 1
17	7.5	1.0	1 to 7.5	7.5 to 1
18	10.0	1.25	1 to 8	8 to 1
19	10.0	1.25	1 to 8	8 to 1
20	10.0	2.0	1 to 5	5 to 1
21	10.0	1.25	1 to 8	8 to 1
Average	11.43	1.57	1 to 7.3	7.3 to 1

methylprednisolone, 12 times greater; 16a-methylhydrocortisone, 3 times greater. Each of the 16-methylated steroids showed enhanced capacity to promote the deposition of glycogen in the livers of fasting mice. Of considerable interest was the finding that the enormous increase in anti-inflammatory activity of 16a-methyl 9a-fluoroprednisolone (hexadecadrol) was not accompanied by a proportionate increase in glycogenic activity (190 times compared with 17 times). In the experimental doses used, none of the four new analogues induced sodium retention in rats that had had adrenalectomy.

Although animal studies cannot be translated directly into terms of the effect of a steroid in human subjects, the powerful biologic activity of 16a-methyl 9a-fluoroprednisolone indicated that this analogue might prove to be the most potent steroid with adrenocortical function yet prepared. The laboratory findings were sufficiently arresting to invite investigations with each of the new analogues in human subjects.

PRESENT STUDY

Clinical evaluations of the effects of 16-methylated derivatives of hydrocortisone in patients with rheumatoid arthritis were begun in December, 1957. The four new steroids have been studied separately and concurrently. The first stage of investigation consisted of an appraisal of the relative antirheumatic potencies of the compounds and the results of this portion of the investigation will be presented herein. Long-term observations of the therapeutic efficiency of two compounds, 16a-methyl 9a-fluoroprednisolone (MK-125: hexadecadrol) and 16a-methylhydrocortisone (MK-117), with continuous administration are being made and will be the subject of a future report.

Determinations of the antirheumatic potencies of the new steroids as compared with prednisolone were accomplished by establishing the total daily milligram amounts of the compounds required to uphold approximately the same control of rheumatoid manifestations. The method consisted of transferring the treatment of patients from one drug to another and determining the number of milligrams of each substance needed to maintain equivalent clinical improvement. Care was taken to select patients whose maintenance doses of the initial preparation were well established and stable and who had sufficient residual evidences of active joint inflammation to permit objective measurement of changes. The improvement status was recorded at intervals of every three to seven days and appraisal of status was based on an overall estimate of rheumatic control as reflected by the degree of subjective complaints (pain, aching, stiffness, limited functional capacity, and the severity of constitutional reaction), by objective measurements of involved joints (swelling, local tenderness, pain on motion, and range of joint movement), and by changes in the erythrocyte sedimentation rate. Medication was transferred back and forth from the original and test substances in deliberate fashion to allow adjustment and stabilization of dosage in relation to clinical response. In each instance at least two cross-comparisons of dosage were made.

TABLE 2.—*Comparisons of Milligram Dosages of 16a-Methyl 9a-Fluorohydrocortisone (MK-126) and Prednisolone Required for Equivalent Degrees of Rheumatic Control*

Patient	Dosages (Mg./Day) for Equivalent Rheumatic Control		Dosage Ratios: 16a-Methyl 9a-Fluorohydrocortisone to Prednisolone	Potency Ratios: 16a-Methyl 9a-Fluorohydrocortisone to Prednisolone
	Prednisolone	16a-Methyl 9a-Fluorohydrocortisone		
1	20.0	6.0	1 to 3.3	3.3 to 1
2	10.0	3.0	1 to 3.3	3.3 to 1
3	12.5	4.5	1 to 2.8	2.8 to 1
4	12.5	4.0	1 to 3.1	3.1 to 1
5	12.5	5.0	1 to 2.5	2.5 to 1
6	10.0	3.0	1 to 3.3	3.3 to 1
7	12.5	3.0	1 to 4.2	4.2 to 1
8	17.5	5.0	1 to 3.5	3.5 to 1
9	12.5	4.0	1 to 3.1	3.1 to 1
10	7.5	2.0	1 to 3.8	3.8 to 1
11	12.5	4.5	1 to 2.8	2.8 to 1
Average	12.73	4.0	1 to 3.2	3.2 to 1

TABLE 3.—*Comparisons of Milligram Dosages of 16a-Methylprednisolone (MK-110) and Prednisolone Required for Equivalent Degrees of Rheumatic Control*

Patient	Dosages (Mg./Day) for Equivalent Rheumatic Control		Dosage Ratios: 16a-Methylprednisolone to Prednisolone	Potency Ratios: 16a-Methylprednisolone to Prednisolone
	Prednisolone	16a-Methylprednisolone		
1	15.0	10.0	1 to 1.5	1.5 to 1
2	7.5	6.0	1 to 1.3	1.3 to 1
3	7.5	6.0	1 to 1.3	1.3 to 1
4	10.0	6.0	1 to 1.7	1.7 to 1
5	10.0	7.0	1 to 1.4	1.4 to 1
6	10.0	7.0	1 to 1.4	1.4 to 1
7	10.0	10.0	1 to 1	1 to 1
Average	10.0	7.43	1 to 1.3	1.3 to 1

RESULTS

16a-methyl 9a-fluoroprednisolone (MK-125: hexadecadrol): The doses of prednisolone and 16a-methyl 9a-fluoroprednisolone needed to maintain equivalent degrees of clinical improvement were compared in 21 patients. Strikingly smaller amounts of the new steroid were required in each instance. Dosage ratios of 16a-methyl 9a-fluoroprednisolone to prednisolone varied from 1:5 to 1:10.0, and averaged 1:7.3 for the group (Table 1). Thus, from clinical appraisal alone, the antirheumatic potency, per milligram, of the compound averaged about seven times that of prednisolone. By calculation it could be considered to have roughly 30 times the potency of hydrocortisone.

16a-methyl 9a-fluorohydrocortisone (MK-126): The anti-inflammatory strength of this compound was also found to be considerably greater than that of prednisolone. Dosage comparison studies made in 11 patients indicated that the analogue was approximately three times as powerful as prednisolone (average, 3.2—range, 2.5 to 4.2) (Table 2).

16a-methylprednisolone (MK-110): This derivative exhibited greater antirheumatic potency than prednisolone, but the variation was fractional rather than multiple. From comparisons made in seven patients, the dosage ratios of 16a-methylprednisolone to prednisolone varied from 1:1 to 1:1.7, and averaged 1:1.3 (Table 3). The findings suggest that the anti-inflammatory strength of the analogue is roughly one-third greater, on an average, than that of prednisolone.

16a-methylhydrocortisone (MK-117): The antirheumatic activity of this relatively simple analogue of hydrocortisone was studied in sixteen patients. The dosage requirements were compared to prednisolone in 12 patients, and to hydrocortisone in four patients. Surprisingly, its anti-inflammatory power, per milligram, was found, on an average, to be nearly as great as that of prednisolone. Dosage ratios of 16a-methylhydrocortisone to prednisolone ranged from 1:0.6 to 1:1 (average: 1:0.7) (Table 4). Direct comparisons with hydrocortisone yielded proportionately similar results; the milligram dosages of hydrocortisone required to maintain similar degrees of clinical control in four patients were three to three and one-half times greater than for 16a-methylhydrocortisone.

TABLE 4.—*Comparisons of Milligram Dosages of 16a-Methylhydrocortisone (MK-117) and Prednisolone Required for Equivalent Degrees of Rheumatic Control*

Patient	Dosages (Mg./Day) for Equivalent Rheumatic Control: Prednisolone	Dosages (Mg./Day) for Equivalent Rheumatic Control: 16a-Methylhydrocortisone	Dosage Ratios: 16a-Methylhydrocortisone to Prednisolone	Potency Ratios: 16a-Methylhydrocortisone to Prednisolone
1	7.5	10.0	1 to 0.8	0.8 to 1
2	10.0	12.5	1 to 0.8	0.8 to 1
3	10.0	10.0	1 to 1	1 to 1
4	5.0	7.5	1 to 0.7	0.7 to 1
5	17.5	25.0	1 to 0.7	0.7 to 1
6	7.5	10.0	1 to 0.8	0.8 to 1
7	10.0	15.0	1 to 0.7	0.7 to 1
8	10.0	12.5	1 to 0.8	0.8 to 1
9	10.0	10.0	1 to 1	1 to 1
10	12.5	17.5	1 to 0.7	0.7 to 1
11	10.0	12.5	1 to 0.8	0.8 to 1
12	7.5	12.5	1 to 0.6	0.6 to 1
Average	9.8	13.0	1 to 0.7	0.7 to 1

COMMENT

From these clinical appraisals of potency it is evident that the substitution of a methyl radical at the 16a-carbon position intensifies greatly the antirheumatic strength of certain 11-hydroxy corticosteroids. None of the four compounds studied produced signs of salt and water retention with the dosages employed during the investigation. The observations conform, in general, with those made in laboratory animals which indicated that the 16a-methyl derivatives of hydrocortisone possessed strikingly augmented anti-inflammatory potency without corresponding disturbance of electrolyte metabolism. It would appear that the discovery of these new analogues represents another important step toward the future invention of ideal suppressive drugs for rheumatoid arthritis and other conditions amenable to adrenocortical steroid therapy. Undoubtedly other compounds containing a 16-methyl substituent will be devised.

It is fully recognized that increased anti-inflammatory potency alone does not imply therapeutic superiority. Rather, the superiority of a steroid depends on its ability to achieve and maintain higher levels of improvement without producing unwanted reactions in greater number or intensity—or, preferably, its capacity to promote better control with fewer or no side effects. Critical clinical observations over periods of many months in large numbers of patients, together with extensive metabolic studies in human subjects, are necessary before the virtues and potential hazards of a drug can be assessed. To date clinical trials with the 16a-methyl steroids now available have been limited and brief, and the results of metabolic studies, designed to ascertain whether they do or do not possess significant and useful dissociations of impedient physiologic properties, are incomplete. Thus it is too early to speculate as to their future therapeutic possibilities.

Nonetheless, preliminary observations with 16a-methyl 9a-fluoroprednisolone (MK-125: hexadecadrol), administered uninterruptedly for periods up to four months, have been interesting. Satisfactory control of rheumatoid manifestations has been maintained with total daily dosages ranging from 0.6 to 2.8 mg. The maintenance dose, as with other steroids, has varied with the severity or activity of the disease, but in a group of 86 patients with rheumatoid arthritis now being treated with the compound, the average dose has been 1.6 mg. a day. The degree of clinical improvement has been elevated in a number of patients following change from prednisolone or prednisone to the new analogue. This has been made possible by the application of relatively higher antirheumatic (but lower milligram) doses of 16a-methyl 9a-fluoroprednisolone. Whether these more effective doses will eventually be accompanied by more or less undesirable effects remains to be seen. So far edema has not been observed with dosages of 4.0 mg. a day or less, and the drug, as yet, has not provoked significant gastrointestinal symptoms.

It would appear that other 16-methylated analogues are deserving of thorough clinical appraisal. This is particularly true of 16a-methylhydrocortisone, a relatively simple derivative of hydrocortisone with an antirheumatic potency approaching that of prednisolone and prednisone. In the author's experience, furthermore, it has not induced edema with trial doses as large as 40 mg. a day.

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Social Security Says:

"A WOMAN who becomes entitled to benefits based on her own earnings and also the wife's benefits on the earnings of her husband would receive no more than the larger of the two amounts. A child who becomes entitled to child's benefits based on earnings of both his father and mother would not receive both payments."

In other words: Double social security taxes paid by one family do not produce benefits for each member paying the taxes. A part of the taxes go to "charity."

—*From the Department of Public Relations, American Medical Association*

Aortic Valve Commissurotomy Under Direct Vision

JEROME HAROLD KAY, *M.D.*, ROBERT M. ANDERSON, *M.D.*,
and JACK SHEINKOPF, *M.D.*, Los Angeles

• Symptomatic stenosis of the aortic valve was treated in ten patients by commissurotomy under direct vision during hypothermia. Seven patients survived and were improved.

THE SURGICAL correction of aortic stenosis has had only limited success with previous methods. The following is a description of direct-vision commissurotomy on the aortic valve, with a report of ten cases.

The first attempt at treatment of aortic valvular stenosis was by Tuffier[3] in 1913—dilatation of the valve by invagination of the wall of the aorta; the single patient operated upon survived ten years with apparent improvement. The next attempt at commissurotomy was not done until 1950, when Bailey[1] successfully passed a dilator retrograde through the carotid artery and into the stenotic aortic valve. Later he used a transventricular approach to the aortic valve, but this approach was unsatisfactory and was abandoned for a third method described by Bailey in 1953—sewing a pouch on the aorta through which a finger could be inserted to dilate the valve. This blind transaortic approach was an improvement over the transventricular route, but caused aortic insufficiency in some cases; moreover, the commissures did not always yield to the pressure of the finger or even of a dilator.

In 1955 one of us (J. H. K.), with Kaiser and Gaertner,[2] experimented on direct surgical exposure of the aortic valve. Since then, ten patients with severe aortic valvular stenosis have been treated by this method, which permits the surgeon to open the stenotic area adequately while avoiding damage to the valve which would cause insufficiency.

Before operation the anesthetized patient was cooled in an ice-and-water bath until the esophageal temperature was reduced to 33°C. In eight patients the surgical approach was through a median sternotomy; in the other two, through a bilateral anterior opening in the third intercostal space. Temporary ligatures were placed around the superior cava proximal to the azygos vein and around the inferior cava. A ligature was placed around the tip of the right atrial appendage for retraction. A heavy silk ligature was passed around the aorta just proximal to the origin of the great vessels. The adventitia was dissected off the aorta and a 4-0 arterial silk stay suture was placed on the right lateral wall of the aorta at the sinus of Valsalva. A curved aortic clamp was applied to the lateral wall of the aorta as close as possible to the base of the heart. A vertical incision 3.5 cm. long was made in the excluded portion of the aortic wall. The superior and inferior venae cavae were occluded and the aorta was cross-clamped just below the origin of the great vessels. The clamp was removed from the lateral wall of the aorta and residual blood was aspirated from the ascending aorta and the left ventricle.

Under direct vision the fused and often calcified commissures were then cut with scissors. This required only a few minutes. The tie around the inferior cava was then released and the resumption of flow from the left ventricle flushed all air from the proximal aortic segment. The clamp was reapplied on the lateral side of the aorta, thereby isolating the aortic incision. The clamp occluding the aorta was removed and next the tie on the superior cava was removed.

Preoperative left heart catheterization had been done in eight of the ten patients operated upon and had revealed pronounced aortic stenosis with differences of pressure as high as 170 mm. of mercury across the aortic valve. Three of the patients died. The other seven were much improved and returned to normal activity.

One death, following combined mitral and aortic commissurotomy, resulted from pulmonary embolism on the fourth postoperative day. Another death occurred at operation when the heart could not be restarted after a satisfactory commissurotomy had been done on a tightly stenotic valve; at necropsy the mitral valve was found to be so stenotic that it admitted only the tip of an index finger, and the tricuspid valve opening was reduced to one-fourth or less of normal. Although a vigorous attempt had been made to improve the patient's cardiac status in the months before, she was in failure at the time of operation. The third death resulted, six weeks postoperatively, from rupture of the thoracic aorta at the line of the incision. At necropsy there was no evidence of healing at this site.

From the Department of Surgery of the University of Southern California School of Medicine and St. Vincent's Hospital, Los Angeles. Aided by a grant from The American Heart Association.

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DISCUSSION

Direct vision permits satisfactory relief of the aortic valvular stenosis; results are good in comparison to those achieved by other methods and there is much less danger of causing aortic insufficiency than by various blind techniques. On the other hand, the danger of aortic stenosis with such symptoms as orthostatic inadequacy, angina or left ventricular failure is emphasized by the fact that two patients being prepared for this operation died before compensation could be restored.

Left heart catheterization, with measurement of the pressure gradient across the aortic valve, makes the diagnosis of this condition considerably more accurate and permits a better assessment of how functionally serious it is in a given case.

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Adenolymphoma of the Salivary Gland

J. E. KAHLER, *M.D.*, and E. C. PALLETTE, *M.D.*, Los Angeles

• Adenolymphoma of the salivary glands (here reported for the first time in two brothers whose father also might have had the disease) is typically a benign neoplasm for which excision is the treatment of choice. Incomplete excision may be followed by regrowth, which in some cases has been eliminated by roentgen therapy. Most such tumors are single and uninodular, but they may be multiple and bilateral.

ALTHOUGH adenolymphoma of the salivary glands is considered to be an uncommon tumor, it has been observed in nine patients treated at St. Vincent's Hospital in the past decade. Unique is the fact that two of the patients were brothers.

The elder brother, aged 63 years when the adenolymphoma was excised from the right parotid gland, had been aware of its presence for four years. The tumor measured 4 x 2 x 2 cm. Later in the same year, the younger brother became aware of symmetrical parotid enlargement; and three years later, when he was 61 years old, adenolymphomas were removed from both parotid glands. The tumor from the left measured 2 x 1.6 x 1.2 cm.; that from the right, 1.8 x 1.2 x 1 cm. The brothers recalled that their father, several years before his death at 82 years, had had bilateral parotid enlargement, but as he had carcinoma of the colon the parotid tumors were not excised nor was biopsy done.

The other seven patients at St. Vincent's Hospital each had a solitary, unilateral adenolymphoma within or on or adjacent to the parotid gland, in four cases on the left side, in three on the right. Four of the patients were women, three men, aged 47 to 78 years. All these tumors were excised, four days to four years after discovery; the largest was 4 x 3.5 x 3.5 cm.

Incidence

Since Thompson and Bryant[23] in 1949 collected reports of 163 cases as acceptable instances of adenolymphoma of the salivary glands and added 17 cases that they had observed, 156 new cases have been reported,* which with the nine here recorded bring the total to 345.

Besides these tumors (also known as papillary cystadenoma lymphomatosum or as Warthin's tumor), which may be regarded as a pure type, Foote and Frazell[4] have found cells resembling these or oxiphilic adenoma in 10 per cent of mixed tumors of the salivary gland.

The great majority of adenolymphomas of the salivary gland are single, uninodular masses, but there are exceptions:

Bilateral single tumors: Reported by Martin and Ehrlich,[13] Nino (cited by Ramage[16]), Plaut,[15] Schulenberg,[20] Thornton,[24] by the authors—one case each.

Bilateral tumors (number unspecified): Reported by Lederman[12] (one case), Foote and Frazell[4] (six cases, multinodular in three).

Bilateral tumors, multiple on one side only: Reported by Martin and Ehrlich and by Ramage[16]—one case each.

Bilateral multiple tumors: Reported by Martin and Ehrlich—one case.

Unilateral multiple tumors: Reported by Cunningham and by Thornton—one case each.

Thus there were 16 patients in whom the disease was bilateral, eight in whom the tumors were multiple on one or both sides of the neck.

Six per cent of all reported parotid tumors were adenolymphomas.[13,21] They occur predominantly in males, in a ratio of 4.5 to 1[6]—even 10 to 1 in a large series.[13]

Location

The incidence is equal on either side of the neck. There is some question as to whether all adenolymphomas arise from the parotid gland or at least in lymphoid tissue close to the parotid. Martin and Ehrlich[13] and Foote and Frazell[4] believe that all these tumors arise from the parotid gland or lymph nodes containing parotid ducts; others[6,8,23] have reported cases in which the tumor was in the submaxillary region. The point is of some significance in view of the difference in embryological development of the parotid and submaxillary glands.[23] The authors, like others, have observed perfectly encapsulated adenolymphomas, removed from over the sternocleidomastoid muscle, which neither clinically, grossly nor microscopically had salivary gland tissue

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Submitted March 7, 1958.

*1,2,4,5,7,8,9,10,11,14,18,19,20,21,22,24

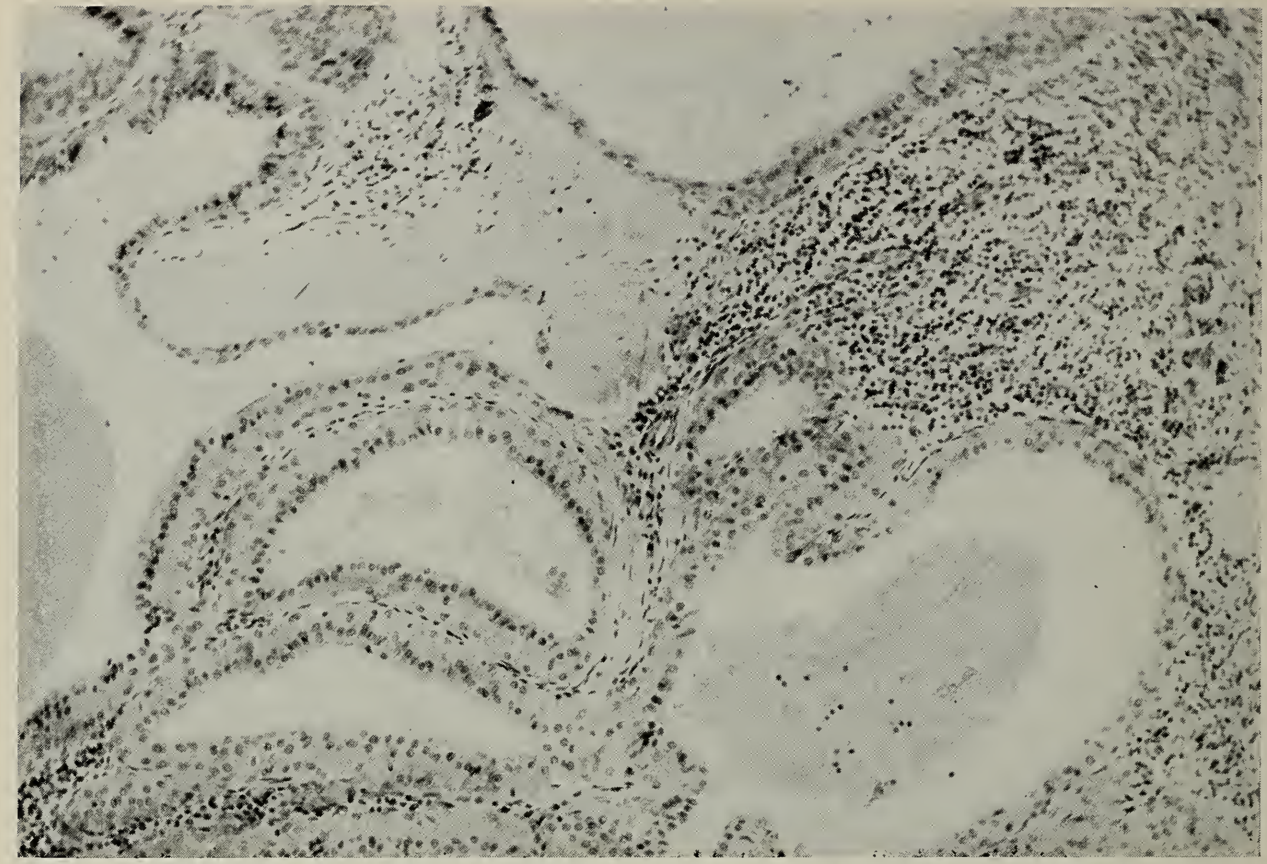

Figure 1.—Photomicrograph (×100) of a benign adenolymphoma of the parotid gland. Note the irregular distribution of nuclei in the tall columnar cells in the acinus at top right.

on or in the capsule. It requires meticulous dissection by the surgeon, rather than a thought process on the part of the pathologist, to decide whether the tumor arose from the lower pole of the parotid or from the posterior pole of the submaxillary gland. Thompson and Bryant[23] accepted as valid four cases, reported in the literature, of adenolymphoma arising *in* the submaxillary gland. No adenolymphomas have been described in the other major salivary glands or in the more widely distributed minor salivary gland tissue.

Age

The youngest patient reported as having the disease was two and a half years old (Stoehr and Risak, cited by Martin and Ehrlich[13]); the oldest 92 years.[6] The highest incidence is in the fifth to seventh decades.[21]

Nomenclature and Histogenesis

It is unnecessary to recapitulate the several excellent discussions of the history of this disease and of its histogenesis.[4,17,21,23] The authors prefer the term adenolymphoma, rather than "Warthin's tumor," since the latter was chosen for its brevity in comparison to "papillary cystadenoma lymphomatosum" and other similarly cumbersome terms, not because Warthin was the first to describe the disease.[21] The older theories of histogenesis have been replaced by the now generally accepted belief that these tumors arise from parotid ducts or from parotid duct elements in nearby lymph nodes.

Gross Appearance

The majority of the lesions occur as well-encapsulated tumors of a dark reddish-gray or red-brown color often resembling an enlarged, congested lymph node. The capsule is delicate and transmits the color of the contained tissue. About one-third of the tumors are partly or wholly cystic with flaccid or tense capsules; the remainder are solid and have the consistency of a lymph node rather than that of a mixed tumor. The fluid content of the cystic foci varies considerably in color, from white or pale yellow to pink or varying shades of brown, but is always turbid and milky or even grumous. The solid portions of the tumor may be a homogeneous red-gray but the cut surface is usually mottled with flecks of light gray, yellow or the dark red-brown of hemorrhage.

Microscopic Appearance

An adenolymphoma is composed of characteristic epithelial elements supported by a lymphoid stroma.

The epithelium is double-layered. The layer nearest the basement membrane is composed of small cells that are cuboidal, rounded or triangular in outline and have scanty clear, colorless or pale pink cytoplasm and small round nuclei. These nuclei are slightly smaller and stain less deeply than those of the second layer of cells; the nuclei are vesicular, the nucleoli small. This cell layer is always broken, never continuous. The cells in the layer near the lumen of the acinus or cyst are very tall, columnar and nonciliated, with a brightly eosinophilic cytoplasm. Most observers have reported that this cytoplasm is always finely granular, but there are certainly some instances of adenolymphoma in which the cytoplasm is opaque and nongranular, especially when thin slices of tumor have been fixed in Zenker's fluid without delay. The nuclei of these tall cells are small, round and vesicular with one or two very small nucleoli, or are pyknotic, irregular in outline and hyperchromatic. Most of these nuclei occur in the end of the cell nearest the lumen, but enough occur in midcell or in basal position to give the impression of alternation or stair-step appearance. In some tumors large vacuoles appear in the cytoplasm of the columnar cells. In one of the cases reported herein, some of these vacuoles stained for mucoprotein while other vacuoles remained unstained. In another of the cases small foci of stratified squamous epithelium replaced both layers of cells for short distances. Rawson and Horn[17] twice noted sebaceous gland elements in these tumors.

The stroma of the tumor is composed of delicate fibrous connective tissue and a varying number of lymphocytes. These lymphocytes may be so few as to resemble an inflammatory infiltrate or may be so many as to have well-developed secondary centers; they may occupy more space in a given area than the epithelial element does, in which case the structure of a lymph node with marginal sinuses and secondary centers is duplicated. There is no doubt that in several of the cases reported upon herein, the tumor developed within a lymph node from parotid duct inclusions, nor is there any question that the lymphoid element is as integral a part of the neoplasm as is the epithelium. Because there is a tendency to hemorrhage in these tumors (unrelated to trauma or therapy), foci of hemosiderin, cholesterol crystal clefts with foreign-body giant cell reaction and subsequent fibrosis may occur in the stroma.

At one extreme this combination of epithelium and lymphoid stroma may simply form a series of low papillary projections lining a cyst; at the other extreme the projections may be so multibranched and papillary as to form a compact, grossly solid tumor. Occasionally there is so much edema of the stroma that the projections are large bulbous masses making up the bulk of the tumor. Also the epithelium may sometimes appear multilayered and form small alveoli.

The lesions are always well encapsulated although the capsule is characteristically quite thin. As in all salivary gland neoplasms, tumor cells may occur in the capsule as well as in the adjacent salivary gland parenchyma; conversely, in half of the cases we observed, salivary gland tissue occurred in or beneath the capsule of the tumor.

Malignancy

This capacity of the tumor cells to invade the capsule and adjacent gland is probably the cause of recurrence of some adenolymphomata just as it is in benign mixed tumors. In one of the cases observed by us, the tumor regrew promptly after an admittedly incomplete removal. At the second operation the lesion was cystic, measured 4 x 3 x 3 cm., extended from the lower pole of the parotid to the lateral wall of the pharynx and sent an extension down along the jugular vein. The patient was free of disease when last observed five years after the second (complete) excision. Lederman[12] reported a case in which the tumor was excised, rapidly recurred and then disappeared with x-ray therapy. Martin and Ehrlich[13] cited two cases (out of 25) with recurrence after "incomplete removal." Sedgwick and Sass[21] cited one case (of 21) with recurrence and reexcision, following which the patient remained free of disease for eight years. Stevenson and Hazard[22] reported a recurrence seven years later beside, but not at, the site of previous removal of an adenolymphoma. It would seem justifiable, then, to consider a "typical" adenolymphoma a benign tumor, since one has never been reported as capable of metastasis and since the capacity to recur is, in all probability, dependent upon incomplete removal or upon misplaced trust in the impenetrability of the tumor capsule.

"Atypical" adenolymphomas, on the other hand, do exist. Gaston and Tedeschi[6] reported a case of "malignant epithelium and stroma" with two recurrences; after 4,200 r roentgen therapy there had been no recurrence in two years to the time they reported. Rekers[19] cited an instance of lymphoma involving lymph nodes and peripheral blood as well as the stroma of an adenolymphoma. Martin and Ehrlich[13] reported one case associated with reticulum cell sarcoma of the neck and mediastinum. Thompson and Bryant[23] collected reports of 12 cases from the literature in which there was either sarcoma in the stroma or carcinoma in the epithelium. Without opportunity to examine this material or even photomicrographs of the sections in some cases, it would be unwise either to deny the occurrence of malignant adenolymphoma or to reclassify the cases reported as malignant into some other category. At the same time we believe it fair to assume that the malignant variants of this tumor are readily recognized as such microscopically and that the more common, "typical" adenolymphoma may be considered a benign tumor.

Treatment

Complete surgical excision including a thin rim of gland tissue adjacent to the tumor capsule results in cure of a "typical" adenolymphoma. The great majority of the reported cures have been accomplished in this way. Most investigators do not consider roentgen therapy the method of choice. Martin and Ehrlich[13] expressed belief that it has no place in the treatment of these tumors, and Patey and Hand[14] were of the opinion the tumors are completely insensitive to roentgen therapy. On the other hand, in the previously mentioned case reported by Lederman, the tumor recurred after surgical excision and "disappeared" after roentgen therapy. Ramage and co-workers[16] and Kerr[10] each cited one case in which roentgen therapy reduced the tumor, although in both instances surgical excision was eventually resorted to for cure. Kerr commented that the roentgen therapy had produced "patchy areas of degeneration in the stroma" but that the greater part of the tumor was unaffected by the x-ray. In Rekers'[19] case of lymphocytic lymphoblastoma involving the stroma of an adenolymphoma as well as the patient's lymph nodes and peripheral blood, roentgen therapy caused the disappearance of lymphadenopathy and lowered the leukocyte count but the tumor only diminished, did not disappear. It is difficult to evaluate the case reported by Gaston and Tedeschi in which both the epithelium and the stroma of the tumor were malignant and in which there was only two years' follow-up. Thus the total number of adenolymphomas treated roentgenologically is too small for judgment of the effectiveness of this kind of therapy; one might conclude that the tumor is moderately radiosensitive but not radiocurable.

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Psychosurgery

Present Indications and Future Prospects

WALTER FREEMAN, ***M.D.,*** **Los Altos**

• Although the advent and widespread use of ataractic drugs has more or less eclipsed lobotomy as a method of dealing with severe psychotic states, variations and adaptations of the operation still can be used with benefit in certain pretty well defined circumstances.

"Chemical lobotomy" and regressive electroshock bring about alterations in behavior superficially resembling those of lobotomy, but without the changes in personality that are the object of lobotomy. These desirable changes consist in increased extraversion, decreased preoccupation with self and decreased sensitivity to the opinions of others. With restricted operations, undesirable changes—the "frontal lobe syndrome"—do not occur.

Operative failures are due to three main causes: (a) Preoperative emotional deterioration; (b) progress of the underlying disease; (c) relapse, possibly due to inadequate operation.

Lobotomy is advisable if the patient does not show sustained improvement after a year of active treatment by other indicated means. The operation often represents the turning point in effective treatment. After the first year of ineffective treatment valuable time is being lost, with danger of fixation and deterioration. Then it is safer to operate than to wait.

The future of psychosurgery lies in prompt application, in favorable patients, of selective operations that will reverse the trend of illness.

There is particular need for further exploration of the temporal lobes in the hope of finding some procedure that will suppress hallucinations. Some 90 per cent of patients remaining in hospitals after psychosurgery are experiencing hallucinations. If these phenomena can be eliminated without producing serious personality defects, another large field for the application of psychosurgery will be opened.

NINE YEARS AGO, when the first institute in Psychiatry and Neurology was held at the Veterans Hospital in North Little Rock, psychosurgery was approaching its peak. Today it is in eclipse, overshadowed by the tranquilizers and euphoriants. The same phenomenon was observed 20 years ago when the insulin and convulsive shock methods were becoming widely used. Nowadays insulin shock has scarcely more than historical interest and the use of electroshock has been substantially reduced. These ups and downs are characteristic of the urge to apply dramatic and sometimes drastic remedies in an effort to restore large numbers of psychotic patients to society. They also permit time to assess results on a long-range basis and to determine the indications and contraindications for various methods.

Psychosurgery never became as widely adopted as electroshock or drug therapy. In 1949, when lobotomy was at its peak, it was applied at the rate of only 6.5 per 1,000 patients residing in mental hospitals.[12] While some 18,500 operations were analyzed in Kramer's[12] review of reports of operations done in the period 1936-1948, few long-range studies were then available. Recently I reported upon a follow-up study of some 500 Freeman-Watts[10] prefrontal lobotomy cases after lapse of between ten and twenty years since operation. This study showed that it required two years for stabilization of the personality of the persons who had the operation and that thereafter the late relapses were balanced by late improvements. During the 10-20-year postlobotomy period 70 per cent of the patients were out of the hospital and 50 per cent of all survivors were employed or keeping house.

Yet by 1949 prefrontal lobotomy had given place to transorbital lobotomy and other selective operations, since the latter were found to be less damaging to the personality and equally effective therapeutically. I shall have to omit discussion of the 30 or 40 other ways of producing lesions in the frontal lobes. They are in varying degrees safe, accurate and clinically effective, yet none has been proved superior to transorbital lobotomy. All of them are so time-consuming or require so much aftercare that they cannot be applied where they are needed most—in the state mental hospitals that have a shortage of everything but patients. I have record of more than 2,600 patients in whom I did transorbital lobotomy; and while the period of follow-up is shorter and less complete than for the series of prefrontal cases, nevertheless among 600 private patients there are 80 per cent out of the hospital and 60 per cent either employed or keeping house. The overall discharge

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rate for 2,000 state hospital patients operated upon was 40 per cent. Similar data have been obtained by other investigators in smaller numbers of cases.

Why has so effective a method been eclipsed?

OBJECTIONS TO PSYCHOSURGERY

Psychosurgery in general has been condemned by many psychiatrists upon ethical and moral grounds, since the idea of mutilating the brain is abhorrent to them. This represents an emotional status that is not to be influenced by argument or demonstration. A more understandable reason is that psychiatrists continue to see the patients who remain in the hospital—those in whom the operation failed—and lose track of those who return to their homes. In many hospitals the only patients subjected to lobotomy are those who have been totally resistant to other therapy and who are a menace to other patients and to personnel. In the West Virginia study[7] it was observed that the proportion of disturbed patients was reduced by lobotomy from 69 per cent to 21 per cent. Even that was not enough to permit continuation of the project. In certain other hospitals, in which there was better choice of patients, 80 to 90 per cent of those operated upon were discharged, most of them within days or weeks after transorbital lobotomy.

Neurological surgeons, as a rule, have condemned transorbital lobotomy. It cannot be described as a delicate brain operation and it offends their ideas of neatness and precision, although Watts, who now employs that method almost exclusively, long ago said that "the surgeon sees what he cuts but does not know what he sees." Even worse, in the eyes of neurological surgeons, is the fact that psychiatrists are performing the operations. This attitude, which might be expressed as "I won't and you shan't," has so restricted the application of this beneficent type of operation that it can be used in only a few hospitals.

Perhaps the most serious charge against psychosurgery is that it alters the personality of the patient. Since this is undoubtedly true the subject deserves more extensive consideration. Indeed, lobotomy is of no value unless it does bring about some change. The nature and degree of these changes are such, however, that in most instances they work for the benefit of the patient, his family and his group whether within the hospital or on the outside. Let me quote a statement by an attorney in one of the large federal bureaus. Married, with four children, he had been incapacitated for two years before he had prefrontal lobotomy in 1940 and for a year afterward. In 1948, when discussing the change in himself, he told Dr. Robinson:[18] "Yes, prefrontal lobotomy changed me—very fortunately for all concerned! Oh, I think I have suffered some intellectual loss. My briefs seem to lack something of the sweet articulation that they once had. But there are compensations. There is a great deal of competition among the lawyers in my agency. The other people in the building call our corridor 'Ulcer Gulch.' I think my work is a little below average in quality—but I do not have an ulcer."

POOR RESULTS

Poor results of lobotomy are traceable to two main factors, poor material and poor surgical technique. Less often responsible for failure are uncooperative families and associated physical diseases such as tuberculosis or cancer. Lobotomy should not be blamed for the occasional progress of schizophrenic psychosis into emotional dilapidation. Some of the patients subjected to operation have already progressed too far in their disease to permit restoration. Some patients have relapse, and only a third of those who do can be benefited by reoperation. The failures in such patients occur in spite of and not because of lobotomy. The personality changes in these three classes of cases are primarily those to be expected in a deteriorating psychosis. They have little in common with the "frontal lobe syndrome" that is the result of too extensive operation.

As to poor operation: It may be inadequate, in which case the patient either does not improve or actually sinks deeper into psychosis; or it may be too drastic, in which case personality changes develop that may be so severe as to be incapacitating. The "frontal lobe syndrome," directly attributable to extensive posterior incisions in the frontal lobes, has been observed in 10 per cent of the Freeman-Watts series and in 1 per cent of the transorbital lobotomy series.[6]

Much has been written about these serious personality changes. To epitomize, it may be said that they represent the Boy Scout virtues in reverse.* They are likely to be particularly prominent in the early phases after lobotomy and to disappear progressively with the passage of time. Two years is the average period for stabilization after prefrontal lobotomy but even after ten years there are some patients that are still improving in their social adjustment. These undesirable changes persist after transorbital lobotomy only when the patient has nonfatal hemorrhages in both frontal lobes.

Turning now to the desirable changes in personality resulting from psychosurgery, the outstanding ones are increased self-confidence, freedom from physical and emotional complaints, decreased sensitiveness to the opinions of others and reduced preoccupation with self. These qualities enable the patients to adjust in society without the turmoil that they experienced during their period of illness. No longer harassed by feelings of inferiority and failure, they can pursue their goals without the same urge for perfection. No longer dissatisfied with themselves or haunted by the opinions of others, they can direct their capacities into useful channels.

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*A Scout is trustworthy, loyal, helpful, friendly, courteous, kind, obedient, cheerful, thrifty, brave, clean and reverent.

This is the ideal to which the psychosurgeon aspires. Usually he has to be content with something less than the ideal, chiefly because of the unfavorable nature of the patients coming to operation. In a study of 3,000 patients one to twenty years after lobotomy,[9] I noted that better results were obtained in patients whose families could and would undertake the problems of convalescence. In state hospital patients the eventual result depended in large measure on the duration of hospitalization before operation. If the patient was operated upon within a period of six months he had a two to one chance of returning to work. If operation was postponed a year the chances were 50/50. After two years only one in three could return to productive occupation, while after ten or more years of hospitalization only one in ten could do so. This applied to the schizophrenic patients. In patients with affective disorders the end was the same but it took a bit longer for disability to become permanent.

I analyzed the figures another way, comparing hospitals or comparing male and female services in the same hospital. Here the abscissa was the average duration of hospitalization of the patients coming to operation, and the ordinate the percentage of patients discharged. The figures varied from 91 per cent in one receiving hospital where operation was done only in acute cases to 10 per cent where the average duration of hospitalization before operation was 12 years. Comparable data for 60 patients undergoing prefrontal lobotomy at St. Elizabeth's Hospital were 35 per cent for the men (average duration of hospitalization 7.6 years) and 45 per cent for the women (average 6.7 years).

The fact of discharge from hospital was chosen as criterion because of the great variation in other proposed behavioral or psychological criteria. In many instances lobotomy was undertaken in the hope of quieting the disturbed and disturbing behavior of the most seriously ill patients. Various studies showed that the Malamud Rating Scale could be applied not only in demonstrating behavioral changes following lobotomy[8] but also as a modest predictive yardstick.[5] The phenomena most favorably influenced were anxiety, obsessive thinking and self-directed violence, while those least altered were hallucinations, scattered thought processes and externally directed violence. In state hospital experience, patients came to operation most frequently because of the latter phenomena and, in addition, had the handicap of several years of hospitalization. The results of psychosurgery in such patients were not good enough to justify enthusiasm.

This was the situation at the time the first Institute in Psychiatry and Neurology was held. Although after 1949 there was a decline in lobotomy generally, in some hospitals it was developed more extensively. A great change occurred in 1954 when it was found that reserpine and chlorpromazine had a profound effect upon the disturbed behavior of psychotic patients.

"CHEMICAL LOBOTOMY"

As the clinical change in patients under treatment with reserpine and chlorpromazine and a host of other drugs has something in common with the lobotomy effect, psychiatrists, at least in their early studies of these agents, spoke of "chemical lobotomy." The patients became more quiet and friendly, participated in the work of the hospital wards, complained less and, not infrequently, improved enough to return home. In services employing maintenance electroshock therapy to control disturbed behavior there was decided reduction in the need for this therapy. With the improvement in the disturbed patients, the whole character of the service was brightened. Doors were unlocked, draperies added a homelike touch, and the wards were decorated with pictures, light furniture and flower vases—articles that previously might have been used as weapons. Unquestionably the results of tranquilizers were much the same in terms of better behavior in chronically disturbed patients as were the results of lobotomy.

In clinical studies of patients receiving tranquilizer therapy, it has been noted that they have lessened response to external and internal stresses, greater tolerance to frustration, lessened tension and anxiety, better relaxation and improved habits. These are similar to the results achieved by lobotomy. The usual intelligence tests and projective techniques also show only slight differences as compared with the results previous to therapy—usually in the direction of improved scores. Once the emotional turmoil is brought under control, the patient can turn his attention more effectively to the given task. Yet there are differences in the results of tests directed toward personality functioning that show trends toward extraversion following lobotomy that are not seen after drug therapy. Patients receiving drug therapy are more aware of themselves, more self-conscious than those who have had lobotomy.

Perhaps the greatest difference, at least in patients with well marked obsessive tendencies, is persistence of the obsessive ideas in spite of drug therapy given to the point of producing a Parkinson-like syndrome. When this obsessiveness is accompanied by depression, the depression may be deepened to suicidal levels by the administration of drugs like reserpine and chlorpromazine. In such instances attempts can be made to lift the depression by euphoriant drugs—Marsilid® (iproniazid), Ritalin® (methylphenidate) or amphetamine—or by shock therapy, but even so the obsessive component still remains. This is the field in which lobotomy has its most powerful and beneficial effect.

Penetrating observation shows that the "lobotomy effect" of drugs is superficial, practically confined to the behavioral aspects, without altering the personality either in the direction of extraversion or the reduction of obsessive preoccupation with the self. I would epitomize this as the Mona Lisa effect.

In comparison of lobotomy (or psychosurgery in general) with convulsive shock therapy, distinct differences are noted also. Shock is almost specific for depression, but it tends to enhance anxiety. When there is a mixture of anxiety and depression, electroshock may make the patient much worse. On the other hand, lobotomy is not so useful in the control of depression *per se*. If the depression is accompanied by obsessive tension, however, lobotomy relieves that condition, usually to such a degree that modest amounts of euphoriant drugs will bring about the desired result. Some patients have been taking dextro-amphetamine for years after lobotomy with enhanced capacity for useful work.

Intensive shock therapy has been employed by some psychiatrists to bring about clinical regression, characterized by amnesia, disorientation and incontinence. This also has been characterized as a "lobotomy effect." The idea is to eliminate all intellectual activity, to wipe the slate clean, as it were, in order to bring the patient back into harmony with his environment. Sometimes this is successful when, for instance, four or five electroconvulsive shocks are given daily for several days. The profound effect takes some time to disappear, but in the long run the patient still has his same personality and runs the same risk of relapse as before. Regressive shock therapy may be followed by persistent amnesia of organic type that impairs the use of the intellect for a prolonged period. It is particularly disturbing to patients with well-defined obsessive thinking because the effort to recall details is accompanied by feelings of failure and incapacity.

In treating a given patient by physical means it is helpful to analyze the symptoms and to apply remedies in a resourceful manner, varying the attack as one symptom after another appears to predominate. Thus lobotomy should be considered first in a state of obsessive thinking, especially if accompanied by compulsive behavior. Such states seldom exist in unmixed simplicity; hence if anxiety and restlessness are pronounced factors, ataractic drugs may first be employed. If there is an accompanying depression that does not yield to euphoriants, then electroshock may be used freely. Every psychosis or neurosis has an element of obsessive thinking, but only in cases where it is primary or persists in disabling severity, should lobotomy be performed.

INDICATIONS FOR PSYCHOSURGERY

Keeping in mind what has been discussed about the effects of lobotomy and kindred procedures, the following conditions, when intractable, are positive indications for operation:

1. Obsessive ruminative tension states with or without compulsions.
2. Involutional psychoses with agitation.
3. Chronic anxiety neuroses.
4. Psychosomatic conditions.
5. Depersonalization syndromes.
6. Pain syndromes, functional or organic.

Lobotomy has also proven of value in undeteriorated schizophrenic states, especially in patients of middle age and with paranoid symptomatology. Periodic catatonic excitements respond better than true manic-depressive states. Fixation and chronicity are serious handicaps to resumption of worthwhile activities, and since restricted lobotomy can be carried out with so little damage to the personality and usually with so beneficial a change, it should be employed more frequently as a preventive to patients whose clinical course indicates insufficient ability to return to normality without it. A patient may come through one or two attacks of mental disorder unharmed, but the danger of deterioration increases with the number of relapses. Lobotomy can often stabilize a patient who otherwise might gradually regress. It is safer to operate than to wait.

Lobotomy was formerly employed freely in some hospitals to eliminate the disturbed behavior of thoroughly disorganized patients. In the West Virginia project[7] there was a reduction of violent patients from 69 per cent to 21 per cent. Since tranquilizing drugs apparently can achieve equal or even better results in such patients, there is no good reason for operating on them. It must be kept in mind, though, that some patients respond poorly to drugs and might do better after lobotomy.

Lobotomy has been tried and found wanting in large measure in psychopathic states, criminality, alcoholism, drug addiction, epilepsy, mental deficiency and most of the organic brain diseases, although it may reduce the emotional distress accompanying Parkinsonism and the pain of the thalamic syndrome. The indications are not precise in such circumstances, and the presence of obsessive tension should be the clue. Drugs are usually preferred in senile agitated states and in delirium.

Lobotomy is not the last desperate remedy when all else fails, but rather to be considered as the turning point in effective therapy. When milder measures are not sufficient, a beneficent change in the personality produced by lobotomy can enhance the effectiveness of those other measures to a gratifying degree.

THE FUTURE OF PSYCHOSURGERY

In the past 20 years lobotomy and similar operations have been developed from crude beginnings through more and more extensive procedures—some so extensive that it was found that if the patient survived he was ill-equipped to take his place in society again. While such procedures may produce occasional brilliant results in chronic schizophrenic patients, they are devastating to better preserved patients. Refinements in the matter of extent and in avoiding trauma to the cortex with its consequent danger of convulsive seizures, have made lobotomy a relatively safe operation. Observance of the proper indications and contraindications, and the proper timing of operations, has made it possible to return some 80 per cent of patients with a fixed state of tortured self-concern[1] to a more cheerful and effective existence. When a patient is operated upon by one of the selective methods before deterioration has set in, the only personality changes that can be measured appear on the positive side of the ledger. This has been best shown, in patients who were not in institutions, by Ayd,[2] Gardner,[11] Longo and his colleagues[14] and by me.[9] With the present methods, such a rate of success cannot be attained in chronic patients in state hospitals. Nevertheless, psychosurgery may be on the threshold of another breakthrough that will bring another host of patients to better health. The fact that the brain of a schizophrenic patient shows no pathologic abnormality either macroscopically or microscopically even after decades of a psychosis, and the fact that occasionally a patient unexpectedly returns to normality after years of confinement, and without any treatment, presents a challenge.

Although not knowing what causes a functional psychosis like schizophrenia or involutional depression or psychoneurosis, we are nevertheless in a position to apply symptomatic measures. Ataractics for overactivity and anxiety, euphoriants and electroshock for depression, lobotomy for obsessive tension, and mixtures of these treatments for syndromes that show various combinations will enable the psychiatrist to treat effectively a large number of patients. The symptom that stands out most distinctly among conditions responding poorly to any of the above treatments is hallucination. Practically all schizophrenic patients unimproved or relapsing after lobotomy are hallucinated. The effect of drugs and shock therapy is quite beneficial in early cases, but while the reaction of the patients to hallucinations is altered at least temporarily, there is no good evidence that these phenomena are abolished in long-standing cases.

This field seems to offer a chance for renewed efforts in psychosurgery. There is strong evidence that hallucinations indicate perverted activity in the temporal lobes. This was the inspiration of Burckhardt,[3] who extirpated areas in the temporal lobe as long ago as 1888. The auditory and other sensory auras of psychomotor epilepsy were reproduced by Penfield[17] on stimulation of epileptogenic foci in the temporal lobes. Williams and I[4] based our amygdaloidectomy operations on the theory that this nucleus was the source of the motor component of hallucination—the projection of the autochthonous thoughts of the patient with capacity to perceive these as coming from the outside. The results of a small series of operations were inconclusive, but better results were obtained in patients whose temporal lobes were apparently damaged by preexisting disease, although the clinical aspects of the patient suggested schizophrenia. More recently Sem-Jacobsen[20] and his colleagues observed a second-to-second relationship between disturbed electrical activity in the temporal and parietal lobes and manifest hallucinations. There have been no clear-cut results in hallucinated patients following undercutting of the uncus and medial aspect of the temporal lobe or even of bitemporal lobectomy. In light of the profound disturbance of memory caused by bilateral or even unilateral lesions of the hippocampus, operation on this structure would be unlikely to give satisfactory results.[19] Nevertheless, the temporal lobes are large areas and are deserving of investigation in a manner similar to that undertaken on the frontal lobes in the Columbia-Greystone topectomy researches.[13,15,16] If either the motor or the sensory component of the hallucinations could be removed surgically, it is conceivable that the brain could compensate for the defect, just as it does in response to frontal lesions, and permit restoration of the patient to better contact with the world outside himself. The patients in whom extensive prefrontal lobotomy succeeds after failure of transorbital or rostral lobotomy are mostly those with hallucinations. The apparent difference between the two methods lies in the severing of connections between the frontal and temporal lobes, specifically the uncinate fasciculus. This fasciculus spreads out as a capsule over the amygdaloid nucleus, indicating that this area would seem to be the most logical one to attack; but other temporal areas are also worthy of exploration and of graded extirpation.

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Social Security Says:

"It is common knowledge that most of us because of living costs, social standards, and economic misfortunes, do not set aside enough money or other assets during our working years to provide adequately for ourselves or our families when earned income is cut off by disability, old age, or death."

In other words: Social Security believes that "most of us" must depend upon the government in our "hour of need."

—From the Department of Public Relations, American Medical Association

Sleuthing — A Public Health Activity

MARY JO TONELLI, *M.D.*, San Rafael

• Because of the unusual coincidence of three cases of acute glomerulonephritis in one family, a private pediatrician was able to alert the Marin County Health Department to the presence of a formidable organism, Group A, Type 12, streptococcus in one community in Marin County. With the cooperation of private physicians, schools, a public health team and the Stanford University Research Laboratory, this outbreak was halted at its very start.

THE HEALTH DEPARTMENT is charged by state law with the control of all communicable diseases. In order to do its job, it must know when and where such diseases occur. Therefore, the same law provides that any physician, nurse, teacher or other citizen must report knowledge or suspicion of a case of communicable disease to the health department immediately. In general the job is one of collecting information as to the amount and kind of disease present in the county, and of education so that people know which disease can be controlled by immunizations, when and how often immunizations are needed, how to recognize diseases and how the health department can take measures to avoid them.

Occasionally there are reported to the health department outbreaks of an unusual character. Such a one is the subject of this communication. In dealing with it the efforts of private physicians, schools and the health department were joined to prevent further occurrence of a formidable disease.

On October 14, 1957, a pediatrician in private practice reported to the Marin County Health Department that he had diagnosed three cases of acute glomerulonephritis in one family following streptococcal throat infections. The patients were 7, 9 and 10 years of age and all attended the same elementary school. This strongly suggested a Group A, Type 12, streptococcal infection. In winter the health department laboratory receives increased numbers of requests for examinations of throat cultures, and the number positive for beta hemolytic streptococcus increases during this season. These throat infections each winter usually come and go and cause no further trouble except in instances in which serious complications such as rheumatic heart disease or glomerulonephritis develop. When it is recognized that Group A, Type 12, beta hemolytic streptococcus is lurking in a community, it is time to make a concerted effort to locate the organism and develop plans to eradicate it before the deleterious effects of acute glomerulonephritis can spread further.

The elementary school which the children attended is located in a new subdivision in Marin County where the homes are occupied in the main by young families, mostly business and professional people, in an unincorporated area somewhat apart from other residential and business centers.

With the cooperation of the principal of the school and technical aid from Dr. Lowell Rantz at Stanford University Medical School, the health department team consisting of nurse, physician and bacteriologist obtained specimens of mucus swabbed from the throats of the classmates of the three young patients as well as from members of the school staff on the day following receipt of the report. To get complete coverage, the public health nurse visited the homes of all children who were absent on that day and took specimens of culture material from their throats. The cultures, 95 of them in all, were examined at the health department laboratory and the ones positive for beta hemolytic streptococcus were forwarded to the Stanford Hospital Research Laboratory for determination of group and type. (Stanford University Hospital Research Laboratory and the United States Public Health Service Laboratory at Chamblee, Georgia, are among the very few laboratories equipped for this diagnostic procedure.)

The report from the Stanford Laboratory showed eight cultures positive for Group A, Type 12, the nephritis-producing streptococcus. This, in addition to the three already known, made 11 positive. Upon receipt of the reports, the family physician and parents of each child who had a positive report were notified and advised to seek preventive treatment at once.

It was decided, in consultation with the school health advisory committee of the Marin County Medical Society, that this was serious enough to warrant extending the examination to the entire elementary school, which was done a week after the report of the first three cases. Of 479 subjects, 25 had cultures positive for Group A, Type 12, streptococcus.

Submitted February 21, 1958.

From a questionnaire sent to the private physician of each child known to have this specific organism, it was determined that eight of the youngsters had a history of sore throat sometime during the week before the culture specimens were taken although they were asymptomatic at the time the material was obtained. In two of these children, signs and symptoms of acute glomerulonephritis developed. Another child, a four-year-old who lived in a neighborhood where infected children played, had streptococcal sore throat and acute glomerulonephritis during the last week in November—some six weeks after the reporting of the first three cases. Of 91 throat cultures taken from family contacts of patients and carriers, none was positive for Group A, Type 12, streptococcus.

The important fact to note is that, of 25 children (in addition to the original three patients) with throat cultures positive for the nephritis-producing streptococcus, only three developed the disease.

The 25 children from whom the Group A, Type 12, organism was cultured were evenly scattered throughout the first six grades of the elementary school. Although the organism is known to spread rapidly within a household, in this survey there was only one such instance apparent.

The prompt recognition of this disease in the community enabled the physicians, school officials and the health department to take the emergency measures necessary to identify the infected persons and to institute preventive treatment which successfully stopped further spread in the community.

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Vasopressor Agents

Influence of Acidosis on Cardiac and Vascular Responsiveness

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- **Clinical observations have indicated that patients who are in shock and who have coexisting acidosis respond relatively poorly to sympathomimetic amines. In experiments with dogs, it was found that, in the presence of acidosis, the pressor action of epinephrine, norepinephrine and metaraminol was considerably reduced. The effect on cardiac rhythm was also considerably lessened after the pH value of the blood had been lowered.**

In view of these observations in animals, six human patients with profound shock and acidosis were studied. All had a considerably lessened pressor response to vasopressor agents; then, after elevation of the blood pH by intravenous infusion of a 1-molar solution of sodium lactate, responsiveness was restored.

These observations emphasize the desirability of close observation of the acid-base status, and early treatment of acidosis, as an important aspect in the management of patients with shock.

QUESTION AS TO THE EFFECT of acidosis on the effectiveness of vasopressor agents suggested itself at the bedside during studies on the value of drugs such as norepinephrine (Levophed®) and metaraminol (Aramine®) for the treatment of patients with bacteremia and shock. It was noted that patients who were in acidosis at the time of onset of the shock state were relatively resistant to the action of these sympathomimetic drugs. Moreover, a progressive decrease in pressor effectiveness on the part of patients who had at first responded well was frequently related to the development of acidosis.

These observations were in harmony with phenomena noted in earlier studies in animals. In 1927, Burget and Visscher[3] noted in experiments with pithed cats that the response of the vascular system could be altered by changing the pH of the blood and that response to epinephrine progressively increased as the pH was elevated from 6.9 to 8.0. More recently Page and Olmsted[6] demonstrated that the pressor action of epinephrine and norepinephrine was diminished in dogs with respiratory acidosis.

Blumenthal, Brown and Campbell[2] observed that the cardioaccelerator response to epinephrine in human subjects was diminished during respiratory acidosis and increased during respiratory alkalosis. These investigators also noted that the bronchodilator action of epinephrine in patients with bronchial asthma was frequently improved following the intravenous administration of molar sodium lactate. These facts suggested that similar considerations would pertain to patients with shock and acidosis.

In experiments that have been published in greater detail elsewhere,[5] epinephrine, norepinephrine and metaraminol were administered to dogs in doses that were calculated to produce moderate elevation in arterial pressure. The arterial pressure and electrocardiogram were recorded and the pH of the arterial blood was measured. After the response to each of these drugs was determined as a control measurement, acidosis was produced by allowing dogs anesthetized with thiopental to breathe a gas mixture containing 30 per cent carbon dioxide and 70 per cent oxygen. The test procedure with vasopressor agents was then repeated.

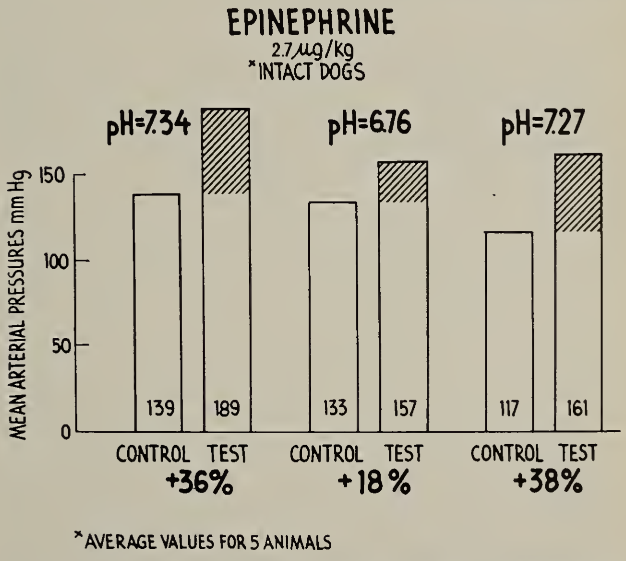

Chart 1.—Relationship of responsiveness to vasopressor agents at normal pH values of arterial blood, and during acidosis in intact dogs.

From the Departments of Physiology, Medicine and Surgery, University of Minnesota Medical School.

Read before the General Scientific Sessions, American Heart Association, Chicago, Illinois, October 25 to 29, 1957.

Submitted December 13, 1957.

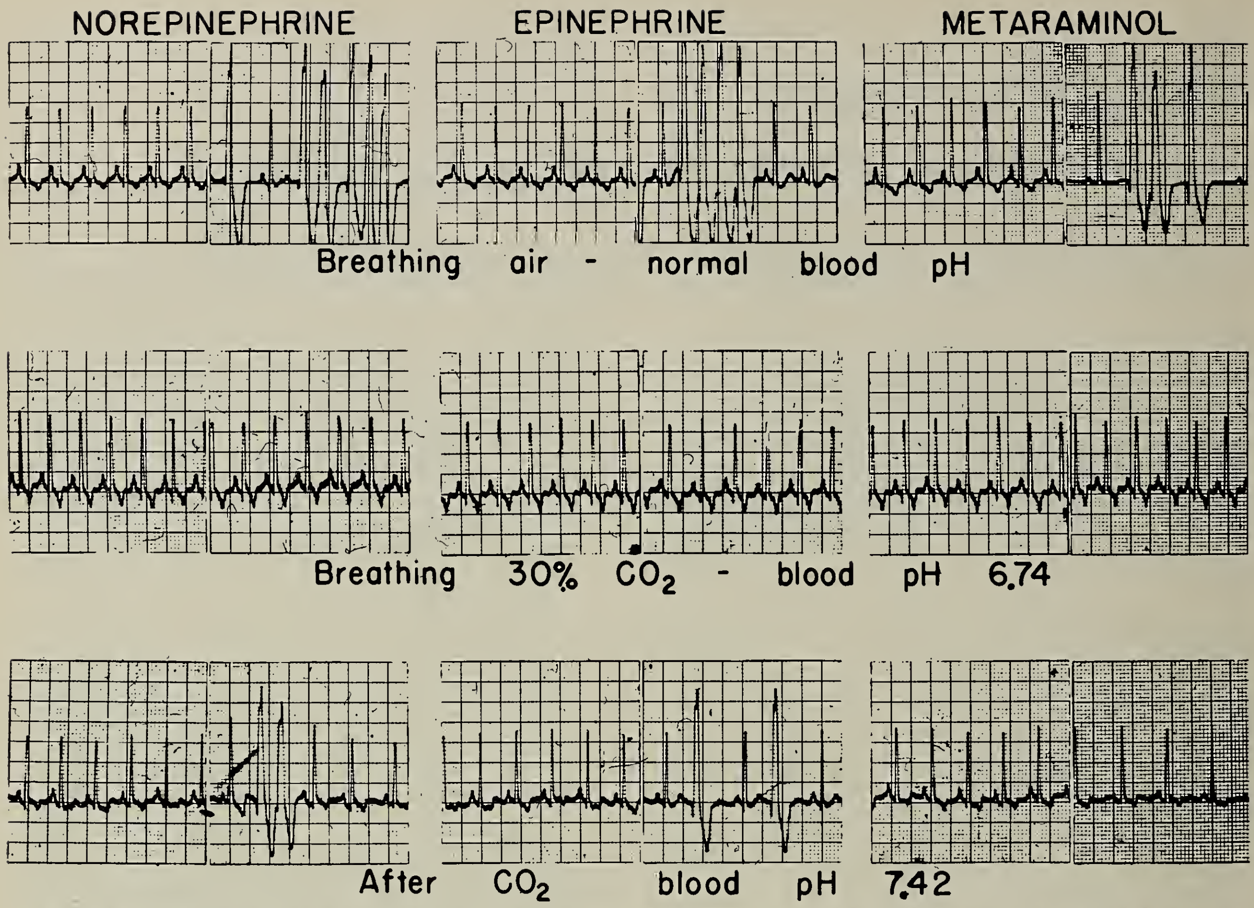
NOREPINEPHRINE
EPINEPHRINE
METARAMINOL
Breathing air - normal blood pH
Breathing 30% CO2 - blood pH 6.74
After CO2 blood pH 7.42

Figure 1.—Electrocardiographic changes following administration of vasopressor agents during acidosis and when the blood pH was at normal values.

Figure 1 is reproduced from the Proceedings of the Society for Experimental Biology and Medicine[5] with permission.

It was found that, in the presence of respiratory acidosis, the pressor responses to each of the three sympathomimetic drugs were diminished (Chart 1). Following the intravenous injection of 2.7 micrograms of epinephrine per kilogram of body weight in five animals with the pH of the arterial blood in the normal range, there was an increase in mean arterial pressure from 139 to 189 mm., which represents an increase of 36 per cent of the control value. However, at pH 6.76 the responsiveness was decreased to 18 per cent. After the pH was raised to 7.27 the pressor response was again increased in this instance to 38 per cent. Corresponding results were obtained with norepinephrine and metaraminol. Pressor responses produced by epinephrine, norepinephrine and metaraminol were also diminished in a similar group of intact animals under condition of metabolic acidosis produced by infusion of a dilute solution of hydrochloric acid.

The electrocardiographic tracings (Figure 1) were of considerable interest. Multiple ventricular extrasystoles and even runs of ventricular tachycardia were produced by each of the sympathomimetic amines when the blood pH was within normal limits. However, no ventricular dysrhythmias followed administration of the same dose of these drugs in dogs with respiratory acidosis. After blood pH was returned to or near normal values, the cardiac irregularity usually reappeared. Dogs with metabolic acidosis gave a similar response. These observations are being studied in greater detail. We have postulated that the increased ventricular activity which follows administration of lactate solution in patients with complete heart block, as reported by Bellet, Wasserman and Brody,[1] may be related to augmented action of endogenous epinephrine brought about by elevation of the blood pH.

In order to separate the effects on the heart from effects on the peripheral vascular bed, a series of experiments was performed during which the sympathomimetic drugs were administered to dogs subjected to total cardiac by-pass. The method described by Campbell, Crisp and Brown[4] was followed: A homologous lung was used as an oxygenator and Sigmamotor units as pumps in the extracorporeal circuits. The extracorporeal lung was ventilated with the 30 per cent carbon dioxide and 70 per cent oxygen mixture. The response of the animal during

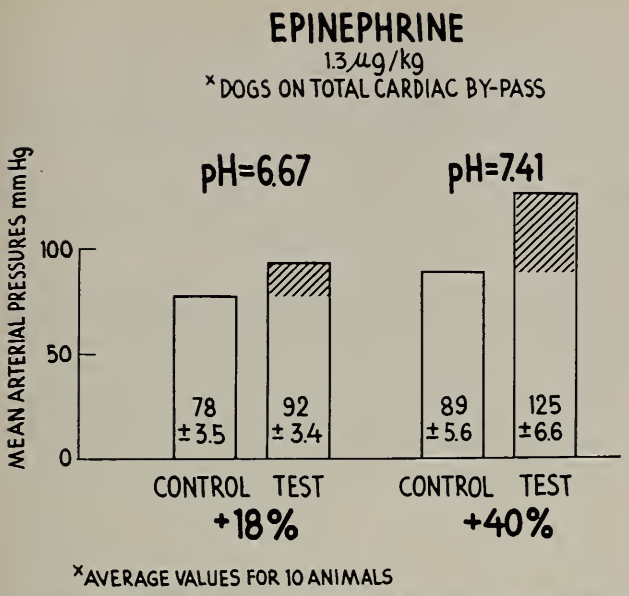

Chart 2.—The effect of pH on pressor responsiveness to *epinephrine* in dogs on total cardiac by-pass.

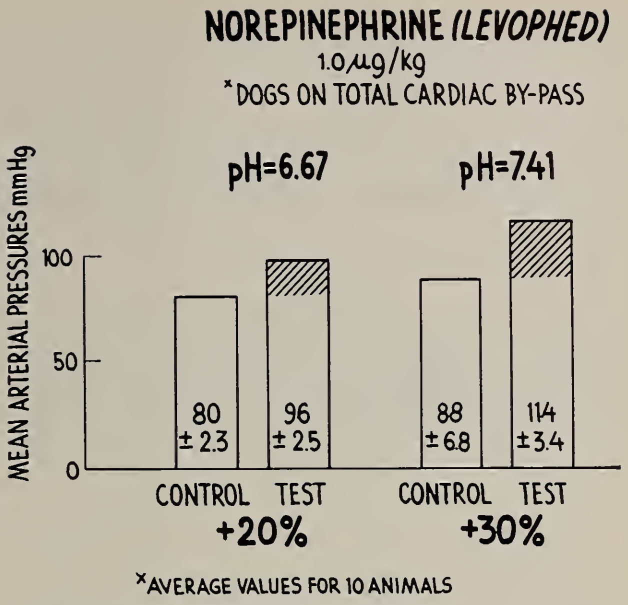

Chart 3.—The effect of pH on pressor responsiveness to *norepinephrine* in dogs on total cardiac by-pass.

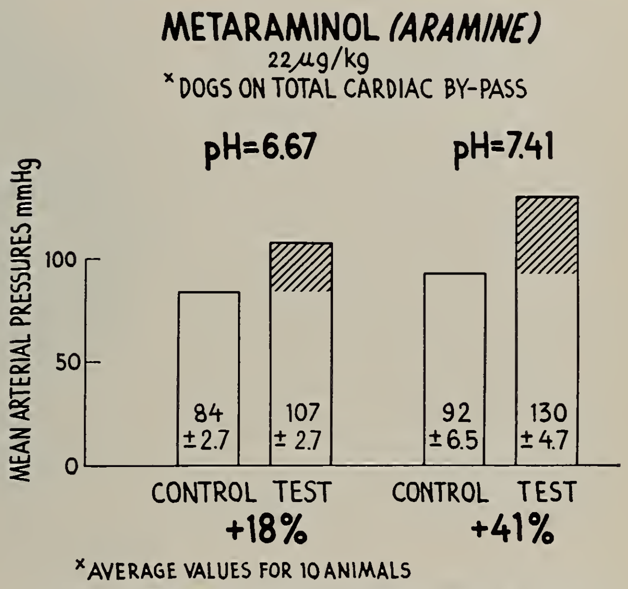

Chart 4.—The effect of pH on pressor responsiveness to *metaraminol* in dogs on total cardiac by-pass.

acidosis was determined first and the control portion of the experiment, in which the pH of the blood was near normal, was performed subsequently. Thus, we were assured that any decrease in reactivity during acidosis would not be confused with a possible decrease in reactivity of the preparation related to prolonged cardiac by-pass.

After the heart was excluded from the circulation, pressor responses under conditions of respiratory acidosis were uniformly much less than those of the same animals after pH was returned to or near normal levels. Thus, when epinephrine was injected into dogs that had total cardiac by-pass after the arterial blood pH had been depressed to 6.67, the pressor response was 18 per cent of the control value (Chart 2). After pH had been elevated to 7.41, the pressor response increased to 40 per cent. The average mean pressure in ten dogs and the standard error of the mean is indicated within the bars of the graph. Similarly in the case of norepinephrine, responsiveness was 20 per cent of the control value at pH 6.67, and 30 per cent at pH 7.41 (Chart 3). Following injection of metaraminol at pH 6.67, responsiveness was 18 per cent and at pH 7.41 it was 41 per cent (Chart 4). Statistical analysis of these data indicates that the differences in pressor responsiveness during acidosis and at normal blood pH for all three agents were significant—the chances of accidental occurrence being less than 1 in 1,000.

In view of these findings in experimental animals, the value of correcting acidosis by infusion of a molar solution of lactate was studied at the bedside. Six patients who had coexisting bacteremic shock and acidosis were treated. All six had received large doses of norepinephrine or metaraminol before these studies, but in spite of this the mean arterial blood pressure was 40 to 60 mm. of mercury. The pH of arterial blood before treatment was as low as 7.06. Following administration of 300 to 1,000 ml. of 1-molar sodium lactate by continous intravenous infusion, the pH was elevated to a maximal value of 7.51. During and after this therapy the blood pressure returned to near the normal range even though the infusion of vasopressor agents was decreased or discontinued. However, none of the patients lived more than seven days in spite of this treatment. It was significant and gratifying that responsiveness to the vasopressor agents was restored by sodium lactate after the usual measures had failed.

In view of the limited accumulation of clinical experience on the use of 1-molar sodium lactate in the treatment of shock, conclusions regarding its value and possible dangers involved in its employment must await additional observations. However, these studies have alerted us to close observation of the acid base status and early treatment of acidosis as one important facet in the management of patients with shock.

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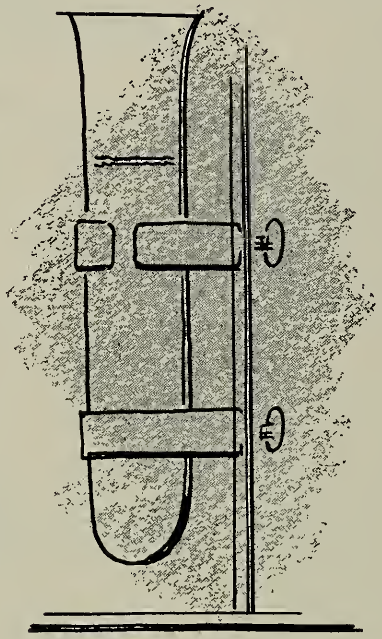

Treatment of Athletes

JAMES J. DALY, *M.D.*, San Francisco

• Treating participants in athletics requires the coordination of coaches, trainers, administrators and physician. Often in cases of proneness to injury, a cause can be found and correction may be obtained by further training or withdrawal of the athlete from the team.

Certain types of injury should be always kept in mind in the examination of athletes, particularly football players. Ligamentous tears, myositis ossificans, navicular fracture and brain injury are injuries that may not be precisely diagnosed at the initial examination.

ATHLETES ARE ONE THING, mere participants in athletics quite another. An athlete is one who has better than average coordination and strength which enables him to surpass in his particular endeavor. He arrives at that station through a process of weeding out which has its beginning in the sandlots and develops on through high school and college. It is during the intermediate stage—high school—that the athlete comes into his own; and it is at this stage that the participant, struggling to make the team, is most likely to need the services of the team physician. He is perhaps less gifted physically and not gifted with that extra sense of timing or coordination that distinguishes the athlete.

The mere participant may be under some pressure to compete. Perhaps Dad played first string at good old Central High School in '26 and now has high hopes for his boy who at 16 years of age is three inches taller than Dad was at that age and tips the scales at 170. Son, however, takes after Mother, who is easy going, somewhat obese and definitely not the athletic type. He has a rather difficult task keeping up with the rest of the squad but, because of Dad's interest and enthusiasm, performs admirably considering his lack of inherent aptitude.

During football practice season the boy suffers numerous minor sprains and aches, all of which, because of the duration of symptoms, dismaying to the team trainer, require the services of the team physician. Unlike the athlete, this 16-year-old participant does not appear too unhappy to hear that he may miss the opening game because of injury.

These are the circumstances in which the coach and team physician should get together and evaluate the player as to his injury, his performance and his value to the squad. It is, of course, true that all young men should be given opportunity to participate in various forms of athletic endeavor, but to my mind it is a serious mistake to include football for boys without real aptitude. Football is rough and oftentimes dangerous, and a participant such as the one described, partaking in a game of body contact against a well-coordinated and determined athlete, may receive severe injuries such as torn ligaments or fractures.

I have taken care of athletic teams, both high school and college, for over ten years and have found a higher incidence of serious injuries in high school boys than in college men. The reasons are many, but prominent among them are that there is a higher proportion of more gifted athletes in the college group; they have more experience in taking care of themselves in falling and blocking; they have better physical conditioning; and they are supplied with better protective equipment.

The greater incidence of injuries in the younger age group has been verified by many observers in this country and in Europe. Anderson and Holen of Norway[1] observed that the injury rate was highest among boys in the 17 to 19 year age group, and two of the factors stressed were incomplete training and a tendency to take chances that older competitors would avoid.

Athletes may have injuries of almost any type, from concussions to broken fingers. The treatment is adequately covered in any text or the various journals of orthopedics and neurology, but there are a few kinds of serious injury which predominate in body contact sports and are therefore of concern to the team physician, trainer and coach.

The Knee

Ligamentous injuries to the knee are among the most common of the permanently incapacitating injuries received in football. The most often injured is the medial collateral and less often the cruciates and the lateral collateral. I have used the word *permanent* with regard to such incapacity because it is my belief that after repair of a collateral ligament the knee cannot endure the trauma one must expect in football.

Submitted January 24, 1958.

Unless injury of this kind is kept in mind, it may be overlooked during the examination of an injured knee. To make a correct diagnosis it is often necessary to carry out aspiration of fluid and manipulation under anesthesia, for, with the joint relaxed, what appeared at first as a slightly loose ligament may be observed to be a complete tear. Determining condition is important, for adequate treatment will save the youngster the trials of a "trick knee" the remainder of his life. In my experience best results are obtained by surgical repair of the ligaments and adequate immobilization. Often at operation the damage observed is far greater than might have been expected from minimal swelling and pain noted at preoperative examination.

Tearing of the ligaments of the knee usually is caused by a heavy blow from the side—as from the hurtling body of another player—while the cleats on the shoe hold the foot too firmly to the turf. Using shoes that would permit the foot to yield more to a blow might help.

Injury to the meniscus is of course prevalent but not nearly so serious. Early diagnosis of this injury is not so important as is that of a ligamentous tear.

Myositis Ossificans

Myositis ossificans is another frequently overlooked complication following what may at first appear to be a minor injury. It usually results from a blow on the thigh, often from a plastic helmet or a kick, followed by some stiffness and muscle tightness. The lesion progresses and does not respond to the usual measures aimed at resolving a "charlie horse." X-ray films in the week following injury show no abnormality. Subsequent films will show a periosteal reaction which often progresses into a large deposition of bone in the surrounding tissues. When this occurs, the player should be forbidden to play for the remainder of the season. I have seen repeated recurrences of symptoms following attempts to get back into condition before sufficient time has elapsed—not from blows to the injured area; merely running will cause a complete setback. The period of convalescence may vary from eight weeks to six months. I have seen a few very severe cases of myositis ossificans traumatica in which an athlete after six months' rest returned to play four years of professional ball with no trouble.

Weinstein, Fraerman and Levin,[3] in an excellent discussion of this condition, observed that it may be confused both radiologically and microscopically with osteogenic sarcoma. Sometimes trauma seems to be so slight a factor in the history of a case that it is not given much weight in differentiation.

Navicular Fracture

A diagnostic pitfall encountered in dealing with "wrist sprain" is navicular fracture. This injury is mentioned because it is sometimes not looked for. I remember one case in which the usual additional films taken two weeks following injury as a precaution against overlooking such a lesion were also negative for a fracture of the navicular; then, nine months later, an old fracture with nonunion was demonstrated. In this case symptoms were fortunately minimal; but the reverse is sometimes true.

Using the "straight arm"—that is, fending off a tackle, with a hand against his helmet while holding the elbow rigid—is frequently the cause of this fracture. Usually it necessitates the athlete's retiring for the remainder of the season. Some physicians will permit a player so injured to participate if he wears a small cast or leather-covered splint. It is difficult to evaluate the adverse effect on healing. Due to the unpredictable nature of this fracture, the physician may be inviting a legal as well as a medical complication.

Head Injuries

The most common injury to the head in football players, excluding fractures and lacerations about the face and nose, is concussion. It is a good policy, I believe, to forbid body contact scrimmage for at least a week to any athlete who has had a short period of unconsciousness from a blow on the head. Persistent headache often results from participation too soon after mild concussion. The period of restriction from strenuous activity and body contact should be determined by the severity of the initial blow and subsequent examination of the patient. It is difficult to lay down hard and fast rules governing the return to unrestricted participation following brain trauma, but it is well to keep decisions on the cautious side. In general, the length of time the patient is unconscious is in proportion to the severity of the trauma.

Some team physicians[2] suggest electroencephalograms before, during and after the sports season. This, of course, is rather impractical in large football squads but certainly should be considered in dealing with boxers and athletes with a history of concussion.

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Management of Emotional Disturbances

Use of Hydroxyzine (Atarax®) in General Practice

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• Forty-one patients with anxiety and tension or various conditions associated with neuroses were treated with hydroxyzine hydrochloride tablets. Of the 41 patients, eight had an excellent response, 14 a good response, 16 were improved and three responded poorly. The only side reaction in this series was temporary drowsiness which, in the majority of patients, ceased after therapy was steadily continued on the same dosage level.

HYDROXYZINE is a p-chlorobenzhydryl piperazine derivative. The chemical structure is distinctly different from that of other tranquilizers. The hydrochloride of this compound is a crystalline solid, readily soluble in water and rapidly absorbed from the gastrointestinal tract. Recent pharmacological studies of the action of the drug in dogs gave evidence that hydroxyzine reduced the incidence and duration of ventricular arrhythmias,[4] and effectively antagonized and blocked the spasmogenic actions of acetylcholine, reserpine, serotonin, histamine and posterior pituitary extract on the duodenum. In addition, Sherrod and Bobb[8] in experiments on isolated ileum in rabbits, noted that hydroxyzine inhibited and blocked barium chloride-induced hypermotility.

Beneficial therapeutic effects in common anxiety and tension states,[2,3,7] in certain kinds of dermatosis that are affected by psychogenic stimuli[6] and in senile anxiety[9] were reported in the literature. No adverse effects on liver, blood, nervous system and urinary tract were observed.

The toxicity of hydroxyzine is low.[5] Although the usual dosage in adults is 25 mg. two or three times a day, one investigator observed that some pediatric patients, especially hyperkinetic children, may require 200 to 300 mg. daily.[1] He recommended that older children be started on 25 mg. tablets twice or three times daily, that the dose be increased until the therapeutic level was reached and that it then be decreased gradually. No obvious deleterious effects in pediatric patients receiving the drug for six months or more were observed.

DOSAGE AND CLINICAL RESULTS

The clinical study of hydroxyzine here reported upon covered a series of 41 patients ranging in age from 19 to 76 years. Hydroxyzine was chosen because of its low toxicity and its therapeutic effectiveness in patients with anxiety and tension. Some patients also had organic disease.[3,9] The dosage in this study ranged from 10 mg. three times a day to 25 mg. four times a day. The therapeutic effects were carefully observed and the dosage was adjusted upward or downward as indicated. Initial drowsiness was not considered a side reaction but as a sign of effective therapeutic response. If drowsiness persisted, however, the dosage was reduced. Most of the patients adjusted well to the schedule they started with, but in some cases the dose had to be increased. No correlation between the amount of hydroxyzine administered and the age or body weight was noted, which accords with Farah's[3] observation. Ayd[1] and Farah noted that children often required much higher doses than adults and that the dose had to be fitted to the patient in all cases. A summary of the results in patients with various diseases and of dosage schedules is given in Table 1.

DISCUSSION

Although this study is preliminary and the series too small for results to be interpreted statistically, notes on the subjective responses of patients and on clinical impressions may help to illustrate the efficacy of hydroxyzine.

CASE 1. A 54-year-old waiter with anxiety and tension consulted us because of a tremor of the hands. He was especially embarrassed when, while he was serving customers, the cups rattled on the saucers. Taking one 10 mg. tablet of Atarax® three times a day improved the condition and the tremors subsided after three weeks of therapy.

CASE 2. A woman 62 years of age who for some time had been having a mild attack of bronchial asthma every 12 to 14 days reported that the attacks ceased after she began taking one 10 mg. tablet of Atarax four times a day. She was much less "nervous" and stated that she felt "so relaxed" under therapy that she forgot "little annoying things" soon

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Submitted October 14, 1957.

TABLE 1.—*Dosage Range and Results of Hydroxyzine Therapy in 41 Patients*

Diagnosis	No. of Patients	Results				Dosage Range (Mg.)
		Excellent	Good	Improved	Poor	
Alcoholism	4	0	2	2	0	10 q.i.d. to 25 q.i.d.
Anxiety and tension	6	4	1	1	0	10 t.i.d. to 10 q.i.d.
Asthma	4	----	2	2	0	10 t.i.d. to 25 t.i.d.
Cardiac conditions	4	----	----	4	0	10 t.i.d. to 25 t.i.d.
"Colitis"	2	1	1	0	0	10 t.i.d. to 10 q.i.d.
"Colitis" and menopause	1	----	----	----	1	25 t.i.d.
Epilepsy	1	0	0	1	0	25 t.i.d.
Hyperhidrosis	1	----	----	----	1	10 t.i.d.
Hypertension	2	----	1	1	0	10 q.i.d. to 25 t.i.d.
Hyperventilation	1	----	----	----	1	25 t.i.d.
Insomnia	4	----	3	1	0	10 t.i.d. to 25 b.i.d.
Menopausal syndrome	1	----	0	1	0	10 t.i.d.
Migraine	2	----	----	2	----	10 q.i.d. to 25 q.i.d.
Neurodermatitis	4	2	2	0	0	10 t.i.d. to 25 t.i.d.
Pre-menstrual tension and/or dysmenorrhea	3	----	2	1	0	10 t.i.d. to 25 t.i.d.
Tension headaches	1	1	----	0	0	10 t.i.d.
Total	41	8	14	16	3	

after they happened. Previously these trivialities aggravated her for days or even weeks.

Such ruminative thinking is characteristic in compulsive personalities. Alleviation of symptoms by hydroxyzine correlates with observed effects of this tranquilizer in obsessive-compulsive states.

CASE 3. A chronic alcoholic 60 years of age, who had cirrhosis of the liver, had considerable improvement in physical appearance and mental outlook while receiving hydroxyzine therapy, stated that his desire for alcohol had diminished and that he did not need phenobarbital which formerly he had taken for insomnia. There was less tremor and the patient had a general feeling of well-being.

CASE 4. A 36-year-old business executive with an acutely irritated colon reported that the frequency of stools decreased during treatment. Laboratory tests showed absence of mucus in the feces. Slight drowsiness which was noted at first disappeared as treatment—one 10 mg. tablet of hydroxyzine four times a day—continued. This was considered clinical evidence of the parasympatholytic property of hydroxyzine.

CASE 5. A woman 52 years of age with menopausal syndrome and hot flashes was given one 10 mg. tablet three times a day. One week after the beginning of therapy she said she was less nervous and that flashes occurred less frequently. In this patient, hydroxyzine apparently alleviated vasomotor instability.

CASE 6. A 39-year-old woman with premenstrual tension and dysmenorrhea of long standing was given one 10 mg. tablet of hydroxyzine three times a day, beginning a week before onset of menstruation; the drug was taken throughout menstruation and was discontinued one week after the flow had ceased. The patient reported less tension and cramping than she had had previously.

CASE 7. A 36-year-old woman complained of "migraine headache," which she had had since age 14 and which became worse with premenstrual tension. The attacks occurred once or twice a week. She was given hydroxyzine, 10 mg. four times a day. Drowsiness was noted at first but it abated after three days of therapy. At last report, after six weeks of therapy, she had had no attacks. She said also that bowel movements, irregular before therapy, had become more regular.

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CASE REPORTS

Combined Intrauterine and Extrauterine Pregnancy

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COMBINED intrauterine and extrauterine pregnancy is rare. De Voe and Pratt[1] in 1948 were able to find only 395 cases reported in the literature to that date. In the case here reported there were confusing features which made early diagnosis difficult.

CASE REPORT

The patient, a pregnant white woman 32 years of age with two children, had vaginal bleeding for two days some four weeks after the last menstrual period. The episode was not associated with cramps or abdominal pain. Two months later, on March 3, the patient had lower abdominal cramps with vaginal spotting which progressively became more severe. She consulted a physician, who put her in hospital. A fetus 2 inches long was protruding from the open cervical os. It was removed and curettage was done on March 7. The patient was discharged the following day despite moderately severe abdominal cramps. During the next 24 hours the abdominal pain became increasingly severe and was associated with subcostal and left shoulder pains, especially on deep inspiration. Nausea, vomiting and chills developed.

When examined by me for the first time in the evening of March 9, the patient was obviously acutely ill. The pulse rate was 100, respirations 36 per minute, blood pressure 90/50 mm. of mercury and the temperature 98.8°F. The skin was pale and dry. The patient said she had decided pain in the shoulders on inspiration. The lungs were clear to auscultation and percussion. Movements of the diaphragm was less than normal. The heart was normal in all respects. The abdomen was distended, with tenderness general but more pronounced in both lower quadrants. There was rebound tenderness, but no point tenderness, and bowel sounds were normal. A well-healed appendectomy scar was noted. Upon pelvic examination, decided bilateral adnexal tenderness was observed. There was no bulging of the cul-de-sac. The uterus could not be outlined because of pain. No bleeding was noted.

It was felt that the patient had peritonitis secondary to a perforation of the uterus at the time of previous dilatation and curettage. She was put in the hospital. The hemoglobin content of the blood was 8.0 gm. per 100 cc. Leukocytes numbered 13,000 per cu. mm. with a shift to the left in the cell differential. No abnormality was noted in the urine. Roentgenographic examination of the abdomen did not reveal free air under the diaphragm. For medico-legal reasons a surgical consultant examined the patient. He concurred with the diagnosis.

The patient was given blood, intravenous fluids and antibiotics (streptomycin and penicillin) and was placed in Fowler's position. In the next few hours the patient's general condition improved and it was felt that surgical intervention was not indicated. By the next day the patient was considerably more comfortable. The respiratory rate was slower and the shoulder pain and abdominal distention were diminished. The abdominal tenderness was less but there was some suggestion of localization in the left lower quadrant. The patient was able to tolerate oral feedings, voided and had a spontaneous bowel movement. On March 13 a low-grade spiking temperature developed. On March 14 the hemoglobin content was 9.9 gm. per 100 cc. Erythrocytes numbered 3,120,000 per cu. mm. and leukocytes 7,000 per cu. mm. with a differential within normal limits. The sedimentation rate was 45 mm. in one hour (corrected).

Although the patient felt well in general, considerable tenderness continued in the left lower quadrant of the abdomen. Pelvic examination could not be carried out satisfactorily because the patient complained of too much pain on bimanual manipulation. Since it was felt that a pelvic abscess probably was developing, spot x-ray films were made over the left lower quadrant. No abnormality was shown in them.

The patient was discharged on March 18 with the admonition that she probably would need readmission later for drainage of an abscess. She was given a prescription of oxytetracylin by mouth for one week. When the patient was next observed in the office on March 31 she still had discomfort in the left lower quadrant of the abdomen. There were no other complaints. The temperature was 98°F., the pulse rate 80 and blood pressure 120/70 mm. of mercury. There was considerable left lower abdominal tenderness on pressure and on rebound. Upon pelvic exam-

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Submitted December 23, 1957.

ination it was noted the cervix pointed posteriorly and the uterus was slightly enlarged and pushed to the right. The cervix and the uterus were tender to motion. No abnormality was noted in the right adnexa, but there was decided tenderness on the left side with a questionable 6 x 6 cm. mass palpable high in the left fornix. No cul-de-sac bulging was present. Dark blood oozed from the external os. A left ectopic pregnancy was considered the most likely diagnosis. A Friedman test was carried out and the result was reported as positive in 48 hours. Since it had been 17 days since the dilatation and curettage for incomplete abortion, it was felt that the test indicated additional extrauterine gestation.

The patient was readmitted to the hospital and on March 24 an exploratory laparotomy was done. A ruptured left tubal pregnancy was found and there was about 300 cc. of fresh and old blood in the peritoneal cavity. A left salpingo-oophorectomy was performed uneventfully. The patient tolerated the procedure well and the immediate postoperative course was uneventful. She was ambulatory in 24 hours, tolerated oral feedings and on the second postoperative day started to pass flatus. Sutures were removed on the sixth postoperative day and the patient was discharged March 31. That evening she complained of nausea and of being unable to keep anything on her stomach. No abnormality was observed on physical examination, however, and it was felt that the difficulty was probably of an emotional nature. But the patient's condition did not improve and on April 2, 36 hours after onset of nausea and vomiting, she began to complain of colicky abdominal pains. There had been no bowel movements or passage of flatus during the preceding 12 hours. The blood pressure was 120/70 mm. of mercury, the pulse rate 70 and the temperature 98.0°F. Slight abdominal distention was present and there was an ill-defined mass thought to be a loop of intestine palpable in the left upper quadrant. Borborygmi were heard. The patient was readmitted to the hospital with a diagnosis of mechanical intestinal obstruction. X-ray films of the abdomen and surgical consultation confirmed the impression. In an attempt to decompress the bowel, a Harris tube with mercury was introduced but it remained curled up in the stomach. The patient was carefully observed for the next 12 hours, and since no improvement was observed, exploratory laparotomy was carried out. An obstruction high in the small bowel due to kinking and adhesions was observed and was relieved easily after lysis of adhesions.

The postoperative course was entirely uneventful. Gastric suction and parenteral feedings were maintained for three days, at which time peristalsis returned to normal and the patient passed flatus. Oral feedings were begun then and were tolerated well. Retention sutures were removed on the sixth postoperative day and all other sutures on the eighth postoperative day. Patient was discharged, feeling well.

SUMMARY

A case of combined intrauterine and extrauterine gestation is presented with the complicating features of possible uterine perforation and postoperative mechanical intestinal obstruction, necessitating laparotomy.

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Acute Renal Tubular Failure

A Report of 2 Cases with an Unusual Mechanism Of Poisoning Due to Sodium Chlorate

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ALTHOUGH poisoning with sodium chlorate or other like compounds is not unusual, the following cases are reported because of the rather unique mechanism of poisoning.

CASE 1. A 29-year-old Negro laborer, an employee of a trucking firm, was first seen on December 12, 1955. After spending an hour inside a large aluminum tank truck, cleaning the tank, he noted the onset of severe weakness, generalized numbness, headache, nausea, dizziness and excessive salivation. He climbed out of the tank and soon began to have severe cramping abdominal pains, chills, fever, pains in all four extremities and paresthesias of the hands and feet, and then vomited several times. The tank which he had been cleaning had recently been used to deliver a liquid mixture of 18.2 per cent sodium chlorate and 10 per cent sodium metaborate which is used by the Highway Department to destroy roadside weeds.

When examined the patient was acutely ill, dyspneic and cyanotic. He complained of generalized pains and chilliness. The blood pressure was 160 mm. of mercury systolic and 60 diastolic. The temperature was 102.2°F., the pulse rate 100 and respirations 28 per minute. Diffuse injection of the conjunctivae was noted. The pupils were in the midposition and reacted to light and accommodation. No abnormality was observed in the ocular fundi. The tympanic membranes were rather dull and injected. The mouth and throat were normal. There was a well-healed scar in the right lower anterior chest from a previous accidental gunshot wound some five years earlier. No abnormalities were noted in the heart or lungs. The abdomen was rounded, soft and diffusely tender. The liver and spleen were not palpable. Rectal examination showed no abnormality. There was extreme weakness of all extremi-

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ties. The nail-beds were cyanotic. Tendon reflexes and the abdominal and cremasteric reflexes were intact and symmetrical. There was hypesthesia of the soles of both feet.

Erythrocytes numbered 2.42 million per cu. mm. and the hemoglobin content was 8.0 grams per 100 cc. Leukocytes numbered 16,900 per cu. mm.—68 per cent segmented neutrophils, 20 per cent nonsegmented neutrophils, 11 per cent lymphocytes and 1 per cent monocytes. Occasional nucleated red blood cells were seen in the peripheral blood. Carbon dioxide combining power was 21.7 milliequivalents per liter. Cholinesterase activity was 0.366 pH per hour in the red blood cells (49 per cent of normal) and 0.77 pH per hour in the plasma (101 per cent of normal). The plasma was noted to be hemolyzed. The urine was dark amber with a specific gravity of 1.016. Results of tests for albumin and sugar were negative. There were two to five red blood cells and three to five white blood cells per high power field.

It was believed the patient had an acute hemolytic reaction due to sodium chlorate, and therefore large quantities of intravenous fluids, consisting of one-sixth molar sodium lactate, were administered to help prevent deposition of hemoglobin in the renal tubules; and sodium bicarbonate was given orally. Within six hours the erythrocyte count had fallen to 1.86 million per cu. mm. and the hematocrit was five volumes per cent. Blood transfusions were then given to maintain an adequate cell volume. Despite the large fluid intake, the total urinary output during the first 24 hours was 75 cc. and the urine soon became grossly bloody.

As soon as it was evident that renal failure had occurred, fluids were immediately restricted so that the total 24-hour intake was equivalent to the total amount of fluid lost (urine, emesis and stool) plus 700 cc. to compensate for the insensible perspiration. After the first 24 hours, the urinary output was nil and no urine was excreted at all except for 5 cc. of thick, syrupy, bloody fluid on the sixth hospital day. On the second hospital day, the erythrocytes numbered 2.7 million per cu. mm., the hematocrit was 12 volumes per cent, nonprotein nitrogen 85 mg. per 100 cc., creatinine content 5.3 mg. per 100 cc., serum sodium 136 milliequivalents per liter and potassium 4.1 milliequivalents per liter.

The patient continued to be moderately dyspneic despite supportive therapy and remained quite cyanotic although oxygen was administered. On the third hospital day the administration of 1 per cent methylene blue intravenously was attempted but was halted when severe chills occurred after only 1 cc. had been given. On the fourth hospital day the condition of the patient seemed to be deteriorating and the nonprotein nitrogen content was 140 mg. per 100 cc., creatinine 8.9 mg. per 100 cc., erythrocytes 3.82 million per cu. mm. and hematocrit 31 volumes per cent. Serial electrocardiograms taken during the hospitalization were all within normal limits except for tachycardia.

On the fourth hospital day, the patient's condition having deteriorated rapidly and there being no machine for hemodialysis available, an exchange transfusion was performed by simultaneous administration and removal of 6,000 cc. of fresh blood. The day after this procedure severe shock occurred which was controlled by continuous intravenous administration of L-arterenol (Levophed). The nonprotein nitrogen content had risen to 177 mg. per 100 cc., the creatinine to 12.2 mg. per 100 cc. Serum sodium was 143 milliequivalents per liter and potassium 4.6 milliequivalents per liter. Erythrocytes numbered 4.12 million per cu. mm. and the hematocrit was 35 volumes per cent.

During the entire period of hospitalization the patient could retain very little nourishment taken by mouth, because of persistent vomiting. On the sixth hospital day he became acutely psychotic and unmanageable. On the seventh day the nonprotein nitrogen content was 258 mg. per 100 cc., creatinine 13.7 mg. per 100 cc., serum sodium 142 milliequivalents per liter and potassium 5.4 milliequivalents per liter. Erythrocytes numbered 3.20 million per cu. mm. and the hematocrit was 28 volumes per cent. At this time the liver was noted to be exquisitely tender and was palpable four finger-breadths below the right costal margin. The blood pressure was unobtainable despite the administration of Levophed, and the patient died on the seventh hospital day.

At postmortem examination, which was done by the coroner's office, the heart and lungs were observed to be grossly normal. The liver was moderately enlarged and had a peculiar reddish-brown color. There was a general bluish-green discoloration of the blood and of the gastrointestinal tract. The kidneys were swollen and appeared edematous. The cortices of the kidneys were not well demarcated. Cut surfaces of the medullary portion of the kidneys were dark red. No urine was found in the renal pelvis or in the bladder. Since the coroner's office was satisfied as to the cause of death, microscopic examination of tissues could not be obtained.

Diagnosis: Acute tubular renal failure due to intravenous hemolysis from sodium chlorate intoxication.

CASE 2. A 35-year-old white man, the employer of the patient in Case 1, was first observed December 12, 1955. After the patient in Case 1 became ill, he had entered the tank of the truck to finish cleaning it. After washing down the inside of the tank for about an hour, he noted the onset of numbness of the hands, severe weakness, dizziness, nausea and vomiting, severe abdominal and leg cramps, dyspnea, chills and fever. He was removed from the tank by other employees and was taken directly to the hospital.

Upon examination he was observed to be acutely ill, dyspneic and cyanotic. The blood pressure was 120/90 mm. of mercury, the temperature was 101.8° F., the pulse rate 88 and respirations 40 per minute. There was cyanosis of the face, lips and nail-beds.

The conjunctivae were diffusely injected and the pupils, which were round, regular and equal in size, were normally reactive to light. No abnormality of the fundi was observed. Except for cyanosis, the ears, nose, mouth and throat appeared normal. The lungs and heart were normal to percussion and auscultation. The abdomen was flat and there was exquisite mid-epigastric tenderness. The liver and spleen were not palpable. There was no weakness of the extremities and results of a neurological examination were within normal limits.

Erythrocytes numbered 4.33 million per cu. mm. and the hemoglobin content was 13.5 gms. per 100 cc. Leukocytes numbered 16,400 per cu. mm.—77 per cent segmented neutrophils, 3 per cent nonsegmented neutrophils, 19 per cent lymphocytes and 1 per cent eosinophils. Nucleated red blood cells were noted in the peripheral blood and there was considerable toxic granulation. Red blood cell cholinesterase activity was 0.8 pH per hour (106 per cent of normal) and plasma cholinesterase activity was 0.57 pH per hour (81 per cent of normal). The blood was noted to be hemolyzed. Carbon dioxide combining power was 23 milliequivalents per liter. A small amount of urine was obtained. It was dark red, had a specific gravity of 1.023, a 4 plus reaction for albumin. The sediment contained many degenerated red blood cells.

Since it was believed that the patient had an acute hemolytic reaction due to sodium chlorate intoxication, large amounts of one-sixth molar sodium lactate were given intravenously and large doses of sodium bicarbonate were given orally in order to alkalize the urine. However, since the urinary output in the first 24 hours in the hospital was only 225 cc. despite a total fluid intake of 3,300 cc, it was evident that he also had acute renal tubular failure. The evening of admission the erythrocyte count had fallen to 3.03 million per cu. mm. and the hematocrit was 25 volumes per cent. The nonprotein nitrogen content was 76 mg. per 100 cc. and creatinine content 3.9 mg. per 100 cc. As soon as it became evident that renal tubular failure was present, intake of fluids was restricted to the amount lost in the urine, vomitus and stools each 24 hours, plus 700 cc. to balance insensible loss. The patient was permitted to drink 20 per cent lactose solution in order to help prevent catabolism of body protein. The hematocrit fell to 15 volumes per cent on the third hospital day and blood transfusions had to be given, but they were limited to packed red cells. Fluids given by vein consisted of 20 per cent glucose in distilled water, to which was added regular insulin in order to keep the serum potassium at near normal levels.

The total urinary output during the first 24 hours was 225 cc., and then each succeeding 24 hours was 300 cc., 350 cc., 390 cc., 240 cc., 80 cc. and 30 cc. The specific gravity of the urine decreased to 1.012 by the fourth hospital day. On the seventh hospital day the urine became light colored and the sediment contained only 15 to 20 white blood cells and 20 to 25 red blood cells per high power field. However there was a progressive rise in the nonprotein nitrogen and creatinine content of the blood: On the seventh hospital day erythrocytes numbered 3.83 million per cu. mm., the hematocrit was 35 volumes per cent, nonprotein nitrogen content was 252 mg. per 100 cc., creatinine 11.4 mg. per 100 cc., serum sodium 142 milliequivalents per liter and potassium 5.3 milliequivalents per liter. The following day the nonprotein nitrogen rose to 270 mg. per 100 cc. and the creatinine to 14.3 mg. per 100 cc., while the serum sodium and potassium remained relatively unchanged at 142 and 5.0 milliequivalents per liter respectively. Since the other patient had just died and the patient in the present case began to show irritability, irrational behavior and generalized tremors, his family requested that means for hemodialysis be obtained.

He was therefore transferred to the Los Angeles County General Hospital where an artificial kidney was available, and during the next 20 days hemodialysis was performed on three occasions, each time reducing the nonprotein nitrogen and creatinine levels by 50 per cent, and each time with clinical improvement. After the fourteenth day the urinary output gradually rose, reaching a maximum output of 1,000 cc. daily. After the third hemodialysis, acute staphylococcic septicemia developed. The patient appeared to be recovering from the infection when he died rather suddenly on the 28th day of illness.

At postmortem examination by the Los Angeles County coroner's office, bilateral pulmonary edema, moderate congestion of the spleen and congestion of the liver were noted. Both kidneys were large and pale. The right kidney weighed 250 grams and the left 280 grams. Cut surfaces were pale and showed poor demarcation between the cortical and the medullary areas. The ureters were of normal caliber. There was some mucosal injection of the bladder. Microscopic examination of the lungs showed many alveoli to contain precipitated protein and scattered foci of erythrocytes and neutrophils. Sections of the kidneys showed a reddish-brown precipitate in many of the tubules, and a few tubules contained blue granules resembling calcium. Some of the tubular cells contained large vacuoles, and scattered foci of lymphocytes or neutrophils were seen in the interstitial tissues. The liver showed chronic passive congestion.

Diagnosis: (1) Uremic pneumonitis. (2) Hemoglobinuric nephrosis. (3) Chronic passive congestion of the liver.

DISCUSSION

The material which these two patients came in contact with consisted of a solution of 18.2 per cent sodium chlorate and 10 per cent sodium metaborate. Sodium chlorate is a powerful oxidizing agent which causes acute hemolysis with abdominal pain, vomiting, dyspnea, cyanosis, headache, weakness, restlessness, shock, methemoglobinemia and renal failure secondary to precipitation of hemoglobin in the renal tubules.[1,5] Fatty degeneration of the liver also may occur. Boron compounds also can be quite toxic and can cause gastrointestinal symptoms and necrosis of the gastrointestinal tract and renal tubular epithelium.[1,5]

In the present cases the mechanism of poisoning was confusing at first, since the first patient had performed a similar task on many previous occasions and had come into repeated contact with this solution without symptoms. However, it was learned that two unfortunate circumstances had occurred. First, all previous deliveries of this material had been made in a steel tank, whereas on this occasion the material was carried in an aluminum tank. Second, just before it was used for transporting the chlorate-metaborate mixture, the tank had been used for a load of cottonseed oil. Upon analysis of the residue in this tank after the two patients became ill, it was found that there was a residue of cottonseed oil in addition to the chlorate-metaborate mixture. Upon experiment it was noted that the chlorate-metaborate mixture, which was quite alkaline, released hydrogen gas when in contact with aluminum, but not when in contact with steel. Also, the alkaline mixture converted the cottonseed oil into cottonseed soap, so that the hydrogen, bubbling through this mixture while the inside of the tank was being washed down with a jet of water, had filled the tank with soap bubbles which contained a high concentration of the chlorate-metaborate mixture. Hence large quantities of vapors of these toxic materials were probably present for inhalation. It is quite likely that if the materials had been contained in a steel tank and there had been no cottonseed oil residue, the poisoning would not have occurred, for the material had been handled safely in the past.

Many terms have been used to describe acute renal failure of the type that follows shock, anoxia, hemorrhage, trauma, burns, fluid loss and various kinds of poisonings[7,9]—"crush syndrome," "lower nephron nephrosis," "acute tubular necrosis," and "acute tubular nephrosis," to mention a few. Moon[3] expressed the opinion that *acute tubular nephrosis* describes clearly the most constant and characteristic feature, which is acute degeneration of the tubular epithelium. The term *lower nephron nephrosis* has generally been discarded, for the tubular degeneration involves the entire tubule from the proximal convoluted tubule to the collecting system. Using microdissection, Oliver[4] observed that two different types of tubular damage can be found, the proximal convoluted tubule showing the most extensive damage when the injury is due to a toxic material, since this portion is the principal absorbing segment of the nephron, and the remaining portions of the tubule showing disruptive tubulorrhexis with loss of the basement membrane when the damage is due to shock and anoxia.

Until about ten years ago, treatment of acute renal tubular failure in many instances consisted of administration of large amounts of parenteral fluids in an attempt to force urinary output.[2,8] Most of the patients so treated died in a pulmonary edema since the severely damaged tubular epithelium would allow unselective reabsorption of glomerular filtrate into the circulation, and anuria persisted despite administration of fluids. Another drastic measure (renal decapsulation) was of no value and has no logical basis for use.[2]

Since a better understanding of fluid and electrolyte balance and protein metabolism has been reached in the past ten years, a proper method of conservative management of patients with acute renal tubular failure has evolved. It has been found that spontaneous diuresis and recovery will occur before the nineteenth day of oliguria in many patients if they can be tided over the critical anuric and oliguric phase.[7] In order to prevent death from pulmonary edema, fluids are given only to replace the amount of fluids lost in the urine, vomitus or feces, plus approximately 700 cc. each 24 hours to replace the loss from insensible perspiration. In order to keep nitrogen and potassium retention to a minimum during the anuric phase, carbohydrate in the amount of at least 100 gm. per day is given by mouth or vein to help prevent protein catabolism. Administration of over 100 gm. per day in the normal human does not increase the protein-sparing action. One of the dangers of acute renal tubular failure is death from hyperkalemia and this usually can be prevented by restriction of protein intake, administration of carbohydrates, administration of insulin and glucose simultaneously to deposit glycogen and potassium in the muscles, and the use of ammonium carboxylic acid resin orally to reduce the potassium levels. There is some evidence that hyponatremia and acidosis aggravate the toxic effect of hyperkalemia and that if these conditions are present death may occur from potassium levels which are only slightly elevated.[8] Sodium intake is usually restricted but it may have to be given if hyponatremia occurs. In most patients diuresis will occur spontaneously between the tenth and nineteenth days, and when it does, large amounts of fluid and electrolytes may have to be administered to replace the amount lost.

Using such conservative therapy, Stock[8] reported an increase in survival rate from 50 per cent to 80 per cent. In some patients treated conservatively, nitrogen and potassium retention may rise to dangerous levels, and this may be temporarily alleviated by use of some kind of dialyzing mechanism. Gastric or intestinal lavage is tedius and difficult to control. The same can be said of exsanguinating transfusions and intraperitoneal dialysis. With the use of an improved artificial kidney,[6] some patients may be tided over the critical period until spontaneous tubular regeneration occurs. In the first case presented herein, exsanguinating transfusions were performed because of the obviously hopeless situation and the fact that the patient was too ill to be transported to another city for hemodialysis. The life of the second patient was obviously prolonged by hemodialysis, but in view of the fact that the total urinary output never rose above 1,000 cc. a day, the patient evidently had renal damage so severe that he could not have lived. It is a possibility in both of these cases that the boron compound caused some additional renal injury.

SUMMARY

An interesting and unusual mechanism of poisoning with sodium chlorate in two patients, resulting in severe fatal acute tubular renal failure, has been presented.

1310 Olive Avenue, Fresno.

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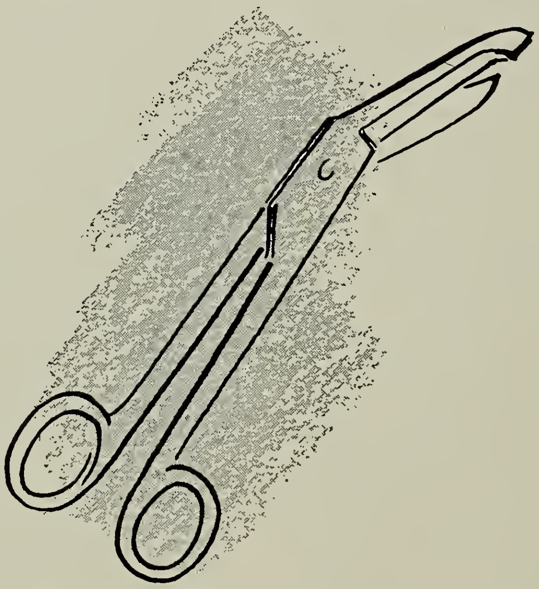

California MEDICINE

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EDITORIAL

Welcome, A.M.A.

When the American Medical Association calls its 1958 Annual Session to order in San Francisco on June 23, the occasion will mark the fifth time in the past 20 years that California has been honored with this great meeting.

The A.M.A. held its annual sessions of 1946, 1950 and 1954 in San Francisco. On another occasion it was welcomed to Los Angeles for a clinical session.

The demands of the A.M.A. for accommodations of all types are so vast that only a few cities in the United States feel they can adequately supply the needs. San Francisco is one of the favored few and it is honored with this, the greatest of all medical meetings.

While not even the most enthusiastic Californian could guarantee ideal weather for this session, experience has been that the A.M.A. is treated extremely well in this regard. Blue skies, ample sunshine and absence of both excessive heat and humidity should be the rule.

And, while all hotel accommodations may not be de luxe, the spirit of the friendly landlord will prevail. Meanwhile, the cable cars will clang, the sidewalk flower stands will send out their advertising perfume, Fisherman's Wharf will offer its delicacies and the Top O' The Mark will draw its enchanted visitors.

To all A.M.A. visitors, a warm greeting. Welcome to California and the City by the Golden Gate. May your visit be both pleasant and productive!

C.M.A. Annual Session, 1958

Another Annual Session of the California Medical Association was concluded the final day of April and the immediate reactions indicate a high level of satisfaction in all departments.

Scientific programs were presented by all 18 scientific sections of the Association, augmented by three postgraduate courses planned and staged by the three medical schools in the Los Angeles area. Medical motion pictures on a broad and varied scale rounded out the scientific presentations.

Technical exhibits—in modern parlance, industrial exhibits—occupied a large area on the ground floor of the Ambassador Hotel in Los Angeles and commanded the attention of a large number of physicians.

Business meetings of the House of Delegates took two full days, separated by two days of committee meetings and hearings.

On the scientific side, the section and general meetings drew better than average audiences and encompassed a broad range of medical and surgical subjects. Aided by five guest speakers of national repute, the scientific part of the program produced many papers which will provide interesting and stimulating reading in these pages in the coming months.

Postgraduate courses at an Annual Session were inaugurated this year, each designed to offer a symposium on a single topic or field of medical or surgical practice. Subjects covered included liver diseases, abdominal pain and the management of trauma. Registration fees were charged for these courses—the first instance of the Association's placing a charge on any of its annual meetings—and credit for attendance was granted by national and state accreditation organizations, notably general practitioner groups.

While registration at these postgraduate courses did not meet some early predictions, the attendance did represent a good cross-section of the profession in California and gave a sound basis for evaluating the worth of such postgraduate instruction at future C.M.A. meetings.

While scientific sessions occupied the attention of the major group of physician participants at the meeting, the business side of the California Medical Association was adequately and avidly followed by the smaller number who comprise the House of Delegates. Here, business was enacted on a scale never before seen in the C.M.A. Where in 1957 there were some thirty resolutions presented for discussion, this year there were 72. In addition, there were four proposed amendments to the Constitution and 17 to the By-Laws introduced.

Office staff members were hard put to duplicate all this business so that each member of the House of Delegates could have his own copies for his own consideration and discussion with others. File folders prepared to handle this volume of work were provided, so that members of the House could keep their papers together and in their own preference of working order.

Held over from 1957, an amendment to the Constitution to provide for proportional representation on the Council was adopted by the House of Delegates by an overwhelming majority. This means the elimination of the former office of Councilor-at-Large and the substitution of proportional representation on the Council by Councilor Districts. Under this setup, Los Angeles County now has six Councilors, each elected by the Delegates in his own county. The remaining Councilor Districts are represented by one Councilor each. This arrangement has reduced the size of the Council by two members, from 17 to 15 elected Councilors. In addition, the President, President-Elect, Speaker and Vice-Speaker continue on the Council as full voting members and the Secretary and Editor serve ex-officio without a vote.

The House of Delegates voted down a proposal brought by the Constitution Study Committee to reduce the size of the House of Delegates to about one-half its present strength. Opposition to this proposal came from many sides, some representing smaller county societies which did not want a decrease in representation and some from larger groups which felt that the House of Delegates was a valuable instrument of communications and should be continued on its present scale.

Adopted by the House were a series of amendments to the By-Laws offered by the Council as a result of the study of the C.M.A. structure made in the past year by Robert Heller & Associates of Cleveland. The changes effected by these amendments were technical in some instances and more substantive in others, but the net effect is to streamline the operations of the Association and strengthen its lines of operations and communications.

Elections held by the House of Delegates in its final session elevated Doctor T. Eric Reynolds of Oakland to the post of President-Elect by acclamation. In this position he succeeds Doctor Francis E. West of San Diego, who was installed as President in closing ceremonies of the meeting.

Other elections saw Doctor James C. Doyle reelected Speaker of the House of Delegates and Doctor Ivan C. Heron named as Vice-Speaker, a post vacated by Doctor J. Norman O'Neill, who was elected a Councilor from Los Angeles County.

Doctors James C. MacLaggan of San Diego and Warren L. Bostick of San Rafael were reelected to the Council by their respective districts, while Los Angeles County renamed Doctors Paul D. Foster and Arthur A. Kirchner, as well as Doctor J. Norman O'Neill as Councilors and added Doctors Malcolm Todd, Joseph P. O'Connor and Gerald W. Shaw as new Councilors.

Incumbent Delegates to the American Medical Association were all reelected and Doctor Donald A. Charnock of Los Angeles was elected as the additional Delegate added this year by the growth of the Association. Doctor James C. Doyle was elected to fill the unexpired term of Doctor Charnock as Alternate Delegate to the A.M.A. and was also named for an additional two-year term. Doctor Ralph C. Teall of Sacramento was named as another Alternate Delegate to the A.M.A., succeeding Doctor Edward C. Rosenow, Jr., who retired from this post, and Doctor Carl M. Hadley of San Bernardino was named as Alternate to Doctor Charnock for the newly created Delegate spot.

Actions of the House of Delegates will be published in the forthcoming issue of CALIFORNIA MEDICINE and some of the papers from the scientific meetings will appear in future issues.

All in all, the 1958 Annual Session should be recorded as one of the most successful, as well as the busiest, in the history of the Association. When a large group of Delegates, 355 in all, can come to prompt and adequate solutions for a wide variety of problems, and do so with a minimum of bickering, California's medical organization appears to be in good hands, well under control and ready to face whatever problems may be presented.

California MEDICAL ASSOCIATION

NOTICES & REPORTS

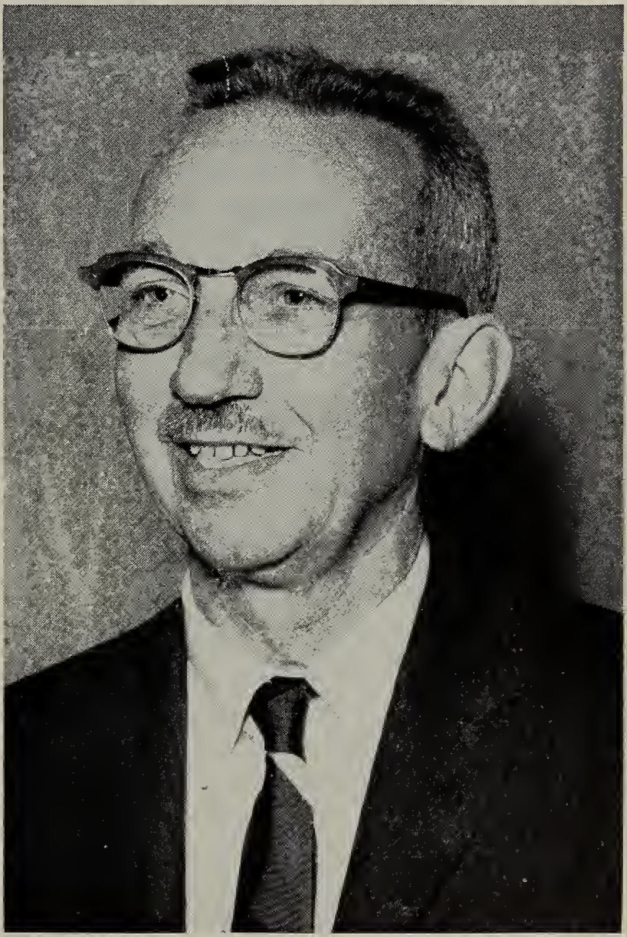
The President-Elect

T. Eric Reynolds, M.D., President-Elect of the California Medical Association, enters that high office with a background of training and experience which will make him a most able leader.

He was born in 1896, at White Plains, New York. He received the degree of M.A. from the University of California and in 1925 was graduated from the University of California School of Medicine. He has practiced medicine in Oakland and the Eastbay Area since 1926. From 1928 to 1940 he was a part-time faculty member in the Department of Pharmacology at the University of California. He is a member of the American College of Surgeons and of the American Academy of General Practice.

During World War I Dr. Reynolds was a line officer in the U. S. Navy. During World War II he was Chief of Surgery, U.S.N. Hospital, New Hebrides, and served on Admiral Halsey's staff in the South Pacific for a year. He was Chief of Surgery and Executive Officer, U.S.N. Hospital, Fort Eustis, Virginia, and was designated Commanding Officer, U.S.N. Hospital, staging to the Far East at the time of the Japanese surrender. Before the war ended, he had risen to the rank of Captain, U.S.N.R.

Active in organized medicine, Dr. Reynolds has served on the Council and as President of the Alameda-Contra Costa Medical Association. He has served on the Council of the California Medical Association for five years and has been on the Board of Trustees of California Physicians' Service for ten years. For six years he was an elected trustee of C.P.S. and for two years has been acting as president of C.P.S. and more recently as chairman of the Board of Trustees. He is a commissioner of the National Blue Shield, representing the Eleventh District, composed of those states west of the Rocky Mountains, and Hawaii. He is a director of Medical Indemnity of America.



T. ERIC REYNOLDS, M.D.

Dr. Reynolds is married and has a daughter and a son. He lives in Piedmont, and with his wife Laurel is greatly interested in wild-life. He is a member of and has served in official capacity with national, state and local Audubon societies.

"Rick" Reynolds brings a wealth of ability and experience to the office of President-Elect, and in his quiet, tireless and friendly way will be one of its finest and most devoted leaders.

Council Meeting Minutes

433rd Meeting

Tentative Draft: Minutes of the 433rd Meeting of the Council, Sacramento, El Rancho Hotel, April 12, 1958.

The meeting was called to order by Chairman Lum in the Patio Room of the El Rancho Hotel, West Sacramento, California, on Saturday, April 12, 1958, at 9:30 a.m.

Roll Call:

Present were President MacDonald, President-Elect West, Secretary-Treasurer Daniels, Editor Wilbur, Speaker Doyle, Vice-Speaker O'Neill, and Councilors MacLaggan, Wheeler, Wadsworth, Pearman, Harrington, McPharlin, Sherman, Lum, Bostick, Teall, Kirchner, Reynolds, Varden, Heron, Rosenow, and Hoyt.

Absent for cause, Councilor Foster.

A quorum present and acting.

Present by invitation were Messrs. Hunton, Thomas, Clancy, Gillette and Whelan of C.M.A. staff; Doctor Walter E. Batchelder, medical director of the Cancer Commission; Messrs. Hassard and Huber of legal counsel; county society executives Scheuber of Alameda-Contra Costa County, Geisert of Kern, Field of Los Angeles, Bannister of Orange, Foster of Sacramento, Nute of San Diego, Neick of San Francisco, Thompson of San Joaquin, Donovan and Colvin of Santa Clara; Eugene Salisbury of the Public Health League of California; Doctor Marshall Porter, Director of the California State Department of Mental Hygiene; Doctors A. E. Larsen and William Gardenier and Messrs. Etchel Paolini, Richard Lyon and Wilson Wahlberg of California Physicians' Service; Doctors Carl E. Horn, William F. B. Harding, G. A. Fricker, Eugene G. Tainter, Abe B. Berman and Dave F. Dozier of the Sacramento Society for Medical Improvement; Doctor John Keye, medical director of the State Department of Social Welfare; and Doctors Carl M. Hadley, Dan O. Kilroy and Wayne Pollock.

1. *Minutes for Approval:*

On motion duly made and seconded, minutes of the 432nd meeting of the Council, held March 9, 1958, were approved.

2. *Membership:*

(a) A report of membership as of April 10 was presented and ordered filed.

(b) On motion duly made and seconded, 101 delinquent members whose dues had been received, were voted reinstatement.

(c) On motion duly made and seconded in each instance, two members were voted Retired Membership. These were: A. E. Kiser, Napa County and Milton B. Lennon, San Francisco County.

(d) On motion duly made and seconded in each instance, 22 applicants were voted Associate Membership. These were: Rey L. Cardon, Charles H. Gallup, Livia Ross, Henry Santina, A. D. Schwartz, Alameda-Contra Costa County; H. S. Hendrickson, Los Angeles County; C. S. Small, San Bernardino County; Andre M. Burnier, San Diego County; I. S. Edelman, John J. Hutchings, Samuel T. Merenberg, Glenroy N. Pierce, Edward F. Slaten, D. Allen Treat, San Francisco County; Holden Brink, Neil Flaherty, W. Mary Riggs, Santa Clara County; George I. Scheetz, Solano County; James Fluvog, William M. O'Brien, Stanislaus County; Philip R. A. May, A. M. Seron, Ventura County.

(e) On motion duly made and seconded in each instance, reductions of dues were voted for seven members because of illness or postgraduate study.

(f) On motion duly made and seconded, it was voted that the Council should nominate for Honorary Membership, Doctor Edith Myers of Alameda-Contra Costa Medical Association.

3. *Financial:*

(a) A report of bank balances as of April 10, 1958, was presented and ordered filed.

(b) A report of income and expenditures for March and the nine months ended March 31, 1958, was presented and ordered filed.

(c) Doctor Heron, chairman of the Auditing Committee, presented a budget proposed by that committee for the 1958-1959 fiscal year. Following the adoption of several amendments, this proposed budget was approved for presentation to the 1958 House of Delegates.

4. *Supplemental Report of the Council:*

Consideration was given to a draft of a supplemental report of the Council to be given to the House of Delegates. On motion duly made and seconded, it was voted to appoint a committee of the Council to draft a proposed recommendation by the Council on the matter of fee schedules. The chairman appointed Doctors Wadsworth, Pearman, Sherman, West and Teall to this committee. It was agreed that the supplemental report be brought before the next meeting of the Council, April 26, 1958.

5. *Commission on Public Health and Public Agencies:*

Chairman Bostick of the Commission on Public Health and Public Agencies, reviewed some of the considerations involved in current rehabilitation programs and urged that the Council and the county societies give earnest thought to this program.

6. *Woman's Auxiliary to the C.M.A.:*

On motion duly made and seconded, in response to a request from the Woman's Auxiliary, it was voted to appoint Doctors Frank A. MacDonald and E. Vincent Askey to the Advisory Board to the Woman's Auxiliary for the 1958-1959 year.

7. *Committee on Postgraduate Activities:*

Doctor Rosenow reviewed registration statistics at postgraduate courses in the past three years, pointing out that 1,530 new registrants listed as general practitioners had registered in the three-year period, or an estimated 66 per cent of all general practitioners outside the Los Angeles, San Francisco and San Diego areas.

8. *Medical Review and Advisory Board:*

Chairman Carl M. Hadley of the Medical Review and Advisory Board reported that the hospital studies undertaken by the board were nearing completion, that jury studies have been completed and that copies of the Patient Attitude Test would be distributed to all Association members. He also commented on the budget prepared by the Board for the 1958-1959 fiscal year. On motion duly made and seconded, it was voted to accept this report, with the provision that no additional research projects be undertaken at this time but that consultation services at a rate of $100 daily plus expenses be authorized as required, in accordance with provision made in the proposed budget.

Mr. Hassard reported that the indoctrination material for members of medical panels had been assembled and was currently being checked.

On motion duly made and seconded, it was voted that the Board should request Dr. Blum to prepare a series of questions to be used by the San Francisco Medical Society, under the terms of his present retainer arrangement.

9. *Committee on Legislation:*

Chairman Dan O. Kilroy of the Committee on Legislation reported on current activities of the committee and presented a proposed statement to be made before the Senate Interim Committee on Public Health on the subject of cancer control legislation. On motion duly made and seconded, this statement was approved.

Doctor Kilroy also reported on the inauguration of a legislative news letter now being sent to county society officers and others.

Mr. Clancy reported that a speech in opposition to HR 9467 had been prepared and sent to all county societies for their use if desired. He also reported that the Association had received an award for its public relations exhibit presented at the recent meeting of the American Public Relations Association.

On motion duly made and seconded, it was voted to invite the two principal candidates for Governor of California to appear before the 1958 House of Delegates.

10. *Public Welfare Assistance Law:*

Chairman Harrington of the liaison committee with the State Department of Social Welfare reported that the pilot program in four counties, to eliminate the need of prior authorization in treating welfare cases had been started and was under observation. Mr. Hassard briefed the federal and state laws governing this program and Doctor John Keye, medical director of the State Department of Social Welfare, commented on the program. Doctors Walter H. Brignoli of Napa County and Byron L. Gifford of Santa Barbara County made statements of the position of their respective county societies on the program.

11. *California Medicine:*

Editor Dwight L. Wilbur outlined a questionnaire which he proposed be sent to about 10 per cent of the Association's members, to determine their views on CALIFORNIA MEDICINE. On motion duly made and seconded, it was voted to approve the approximate $250 cost of this study.

12. *State Department of Mental Hygiene:*

Doctor Marshall Porter, Director of the State Department of Mental Hygiene, reported that legislative support had not developed for his department's recommendation that mental hygiene clinics now supported solely by the state be converted into community clinics under joint community-state support. He also reported the belief of the department that narcotics addicts be treated in their own communities as community problems and not sent to state hospitals where proper treatment facilities are not available.

Chairman Lum read a letter received from Doctor Sidney J. Shipman, in which he urged that additional funds be provided for drugs for the treatment of tuberculous patients in state hospitals. Doctor Porter agreed to confer with Doctor Shipman on this matter.

13. *Legal Department:*

Mr. Hassard reported that a court has decided that a district hospital constructed with public funds, has the right to deny staff membership to a physician deemed unsuited for such membership. This is the first case on record involving a district hospital in California.

Mr. Hassard also reported that a physician in Fresno had filed suit against the officers of a hospital staff because of their failure to recommend his reappointment as a staff member. This suit is based on libel and slander.

14. *California Physicians' Service:*

Doctor T. Eric Reynolds, chairman of the Board of Trustees of California Physicians' Service, reported that membership now totals 786,672 and that current operations are running with a surplus, a reversal of the trend of the past year.

Doctor Reynolds also reported that a proposal in the 1957 House of Delegates, to supply members with plastic identification cards, had been investigated and found impractical because of an extremely high cost.

15. *Los Angeles County Medical Association:*

Doctor Rosenow reported that the Los Angeles County Medical Association had agreed to review public welfare assistance cases for nonmembers of that association as well as members. He suggested the advisability of similar action being taken statewide.

16. *1958 House of Delegates:*

Speaker Doyle of the House of Delegates requested all District Councilors to ascertain from the chairman of their delegations the time and place of caucuses planned during the Annual Session.

Doctor Doyle also requested permission to change the order of business at the second session of the House of Delegates, so that consideration would be given to proposed By-Laws amendments prior to the election of officers and other representatives. On motion duly made and seconded, this change was approved.

17. *Travel Insurance for Councilors:*

On motion duly made and seconded, the Committee on Insurance was requested to look into the coverage and cost of travel accident insurance to cover officers and Councilors while engaged in official business for the Association.

18. *Time and Place of Next Meeting:*

It was agreed that the next meeting of the Council would be held in the Ambassador Hotel, Los Angeles, starting at 9:30 a.m., Saturday, April 26, 1958.

Adjournment:

There being no further business to come before it, the meeting was adjourned at 5:25 p.m. out of the memory of Doctor Axcel E. Anderson of Fresno, former member of the Council and since 1940 chairman of benevolence activities of the Association, who died in Pasadena on April 11, 1958. The executive secretary was instructed to advise Doctor Anderson's son and daughter to this effect and notify them that the Council proposed to make an additional contribution to Physicians' Benevolence Fund., Inc., in memory of Doctor Anderson.

Donald D. Lum, M.D., *Chairman*
Albert C. Daniels, M.D., *Secretary*

434th Meeting

Tentative Draft: Minutes of the 434th Meeting of the Council, Los Angeles, Ambassador Hotel, April 26 to 30, 1958.

The meeting was called to order by Chairman Lum in the Colonial Room of the Ambassador Hotel, Los Angeles, on Saturday, April 26, 1958, at 9:30 a.m.

Roll Call:

Present were President MacDonald, President-Elect West, Secretary Daniels, Speaker Doyle, Vice-Speaker O'Neill and Councilors MacLaggan, Wheeler, Foster, Wadsworth, Pearman, Harrington, McPharlin, Sherman, Lum, Bostick, Teall, Kirchner, Reynolds, Varden, Heron, Rosenow and Hoyt.

Absent for cause, Editor Wilbur.

A quorum present and acting.

Present by invitation during all or a part of the meeting were Messrs. Hunton, Thomas, Clancy, Gillette, Whelan and Collins and Dr. Batchelder of C.M.A. staff; Messrs. Hassard and Huber of legal counsel; Messrs. Read and Salisbury of the Public Health League of California; county society executives Scheuber of Alameda-Contra Costa, Jensen of Fresno, Geisert of Kern, Field of Los Angeles, Bannister of Orange, Marvin of Riverside, Foster of Sacramento, Donmyer of San Bernardino, Nute of San Diego, Neick of San Francisco, Thompson and Pearce of San Joaquin, Wood of San Mateo, Donovan and Colvin of Santa Clara; Messrs. Wahlberg, Virello, Paolini and Lyon and Drs. Larsen and Gardenier of California Physicians' Service; Doctor Marshall Porter, State Director of Mental Hygiene; Doctor Malcolm Merrill, State Director of Public Health; William Rogers of the California Academy of General Practice; Doctors Thomas Elmendorf, Burt Davis, Carl M. Hadley, John W. Cline, Dwight H. Murray, J. E. Feldmayer, Frederic S. Ewens, Carl E. Horn, Abraham Sirbu, Dan O. Kilroy, Marden E. Alsberge, H. G. MacLean, J. B. Price, Leon Desimone and others.

1. *Minutes for Approval:*

On motion duly made and seconded, minutes of the 433rd meeting of the Council, held April 12, 1958, were approved.

2. *Membership:*

(a) A report of membership as of April 22, 1958, was presented and ordered filed.

(b) On motion duly made and seconded, 561 members who had become delinquent and had subsequently paid their dues were voted reinstatement.

(c) On motion duly made and seconded in each instance ten applicants were voted Associate Membership. These were: Muriel J. Ellis, J. R. Goldsmith, Alameda-Contra Costa County; Frank M. Hirose, Paul A. L. Haber, Marianne Hessel, Bernard Kordan, Donald J. Lauber, Clark D. Ryan, Los Angeles County; Enos P. Cook, Santa Clara County; J. I. Porter, Solano County.

(d) On motion duly made and seconded in each instance, two applicants were voted Retired Membership. These were: Clifford Kuh, Alameda-Contra Costa County, and Albert M. Vollmer, San Francisco County.

(e) On motion duly made and seconded in each instance, five applicants were voted a reduction of dues because of illness or postgraduate study.

3. *Financial:*

A report of bank balances and other current items as of April 22, 1958, was presented and ordered filed.

4. *Supplemental Report of the Council:*

Councilor Teall presented a proposed preamble to the Supplemental Report of the Council, Councilor Wadsworth read the report of a special committee to consider the question of fees and negotiations, and President West read a statement which had previously been discussed by the Council.

After discussion, it was regularly moved, seconded and voted to introduce into the House of Delegates a resolution prepared by Doctor Wadsworth's committee, to be followed by the statement presented by Doctor West.

5. *Commission on Public Health and Public Agencies:*

Doctor Bostick reported on a meeting of the Advisory Committee to the Crippled Children's Services held April 25, at which it was voted to establish a committee to review all diseases and conditions which would become a part of the program.

Doctor Sherman reported for a special committee to consider the payment to physicians of fees for their professional services, rather than having these services considered a part of a per diem payment for hospitalized patients. The Council approved the statement this committee proposed to use in this respect.

6. *State Department of Mental Hygiene:*

Doctor Marshall Porter, State Director of Mental Hygiene, invited the presentation to his office of any local problems encountered in mental health activities.

7. *American Medical Association:*

Doctor Dwight H. Murray, past president of the American Medical Association, reported on progress being made in the A.M.A. in revising its administrative structure and solicited suggestions from the California delegation to the A.M.A.

8. *State Department of Public Health:*

Doctor Malcolm Merrill, State Director of Public Health, reported on the activities of his department in measuring the radioactive fall-out found in both airborne particles and rainfall in recent weeks. Studies of this nature are continuing, he stated.

9. *Committee on Legislation:*

Doctor Dan O. Kilroy, chairman of the Committee on Legislation, reported the results of a poll taken of legislators on the feasibility of repealing a law already on the statute books (AB 679); the poll indicated the opinion of the bulk of the legislators that such repeal would not be feasible.

10. *Commission on Medical Services:*

Doctor H. G. MacLean, chairman of the Commission on Medical Services, presented the recommendation of that commission for a study to be undertaken by the Stanford Research Institute on the question of the encroachment of government on medical practice. It was recommended that such a study be undertaken, over an estimated nine-months period at a cost of about $93,000, as a forerunner to the establishment within the Association of a research department for continuing socio-economic studies.

Further discussion urged the establishment of a strong study and planning group. On motion duly made and seconded, it was voted to appoint a committee to consist of one Councilor with the officers of the Association, to consider these proposals and to make recommendations to the Council for consideration.

11. *Medicare Program:*

Doctor John W. Rumsey submitted proposed principles to be followed in the Medicare program, where periods of 30, 45 or 60 days of aftercare were desired in surgical cases and where more than one physician provided service. On motion duly made and seconded, it was voted to approve these principles and to authorize Doctor Frank J. Cox to accompany Doctor Rumsey to Washington for discussions with the Department of the Army should his participation be deemed desirable.

12. *Cancer Commission:*

Doctor John W. Cline, chairman of the Cancer Commission, reported that there had been some decrease in requests for cancer conferences from the county societies and some decrease in attendance at the conferences held. He asked the Council's opinion on the propriety of staging such conferences under the auspices of chapters of general practitioners. On motion duly made and seconded, it was voted to approve such conferences.

13. *Community Fund Drives:*

Discussion was held on questions being raised by some of the voluntary health agencies as to the advisability of their remaining in community or united funds in areas where there was a division between the need for research and community service funds. It was pointed out that many of the large national voluntary health agencies devote a large part of their funds to research and education, rather than to community service, and felt their needs were not being adequately covered in cities where the service aspect was given a higher priority in the distribution of the pooled funds. No action was taken.

14. *Central California Blood Bank:*

Doctor John F. Murray, president of the Fresno County Medical Society, reported that the Central California Blood Bank was operating successfully under the direction of Mr. Roy Jensen, executive secretary of the county medical society, that its bills were paid to date and that repayments to the California Medical Association might soon be possible. The chairman, on behalf of the Council, expressed gratification at this report.

15. *Judicial Commission:*

A letter from the Alameda-Contra Costa Medical Association, expressing disappointment with the handling of an appeal by the Judicial Commission of the Association, was read and discussed. It was reported that a By-Law amendment would be introduced by that society to broaden the authority of the Judicial Commission in determining punishment in disciplinary cases.

16. *Committee on Insurance:*

Doctor Arthur A. Kirchner, chairman of the Committee on Insurance, introduced Messrs. Charles O. Finley and Calvin Smith of Charles O. Finley and Co. and Mr. Robert Lyon of Lumbermen's Mutual Casualty Insurance Company, who discussed new insurance programs covering group major hospital expense and group accidental death policies which could be made available to Association members.

17. *Auditing Committee:*

Chairman Heron reported that the Auditing Committee had reviewed the expenditures of selected committees and had found them in order. Minor procedural changes in handling costs for some committees were suggested and approved.

18. *Medical Executives Conference:*

Mr. Hunton reported on a number of items which had been discussed by the Medical Executives Conference at its April 25 meeting.

Mr. Hunton also reported on the progress of the current Annual Session and presented several proposals for improved communications between the Council and the office staff.

19. *Resolution of Approval:*

On motion duly made and seconded, an expression of approval for the services of Rollen Waterson to the medical profession for a number of years was approved for submittal to the House of Delegates by the Council.

20. *Audio-Digest Foundation:*

Doctor Rosenow gave a progress report on Audio-Digest Foundation, showing growing subscription lists in all services being offered and plans being made for adding new services for other specialties.

21. *Commission and Committee Nominations:*

Doctor Bostick presented a list of commission and committee nominations which, on motion duly made and seconded, was approved.

22. *Trustees of California Physicians' Service:*

On motion duly made and seconded, it was voted to nominate to the House of Delegates as Trustees of California Physicians' Service Doctors Dave F. Dozier and Arlo A. Morrison, Mr. Thomas Hadfield and Rt. Rev. Msgr. Thomas J. O'Dwyer for reelection and Doctor Paul Hoagland to fill an unexpired term.

23. *Committee on Indigent Care:*

On motion duly made and seconded, it was voted to request the Committee on Indigent Care to prepare, for Council approval, a definition of indigency and medical indigency.

24. *Committee on Other Professions:*

Doctor Wayne Pollock, chairman of the Committee on Other Professions, reported on meetings held with other groups on the subject of medical education. On motion duly made and seconded, it was voted to reaffirm the position taken earlier in regard to establishment of an additional medical school and to commend the committee for its efforts in this direction.

Adjournment:

There being no further business to come before it, the meeting was adjourned on Wednesday, April 30, 1958, at 9 a.m., the above transactions representing recessed and reconvened meetings on each day from April 26 through April 30, 1958.

DONALD D. LUM, M.D., *Chairman*
ALBERT C. DANIELS, M.D., *Secretary*

435th Meeting

Tentative Draft: Minutes of the 435th Meeting of the Council, Los Angeles, Ambassador Hotel, April 30, 1958.

The meeting was called to order by Chairman Lum in the Frenchette Room of the Ambassador Hotel, Los Angeles, on Wednesday, April 30, 1958, at 6:30 p.m.

Roll Call:

Present were President West, President-Elect Reynolds, Speaker Doyle, Vice-Speaker Heron, Secretary Daniels and Councilors MacLaggan, Wheeler, Todd, Foster, O'Neill, Kirchner, O'Connor, Shaw, Pearman, Harrington, Davis, Sherman, Lum, Bostick and Teall. Absent for cause, Editor Wilbur.

A quorum present and acting.

Present by invitation were Messrs. Hunton, Thomas, Clancy and Gillette of C.M.A. staff, and Howard Hassard, legal counsel.

1. *Introduction of New Members:*

The chairman introduced to the Council and welcomed as members of it Doctors Malcolm Todd, Joseph P. O'Connor and Gerald W. Shaw, all of Los Angeles County, and Burt Davis, Santa Clara County.

The chairman also welcomed Doctor T. Eric Reynolds, newly elected President-Elect, and Doctor Ivan C. Heron, newly elected Vice-Speaker as members.

2. *Election of Officers:*

On nomination duly made and seconded in each instance, the following officers were elected for the 1958-1959 year:

Chairman	Donald D. Lum
Vice-Chairman	Samuel R. Sherman

3. *Appointments by Council:*

On nomination duly made and seconded in each instance, the following appointments were voted for the 1958-1959 year:

Secretary	Albert C. Daniels
Executive Secretary	John Hunton
Editor	Dwight L. Wilbur
Legal Counsel	Peart, Baraty & Hassard

4. *Appointments by Council Chairman:*

The chairman, with confirmation by the Council, appointed Doctors Heron (chairman), Sherman and Davis as members of the Finance Committee.

The chairman, with confirmation by the Council, appointed Doctors Heron, Shaw and Davis as members of the Board of Trustees of California Physicians' Service as Council representatives.

5. *Bank Resolutions:*

On motion duly made and seconded, it was voted to execute the usual bank resolutions, calling for authorized signatures of officers under bond for the withdrawal of Association funds.

6. *Committee on Economics:*

To carry out the Council's earlier decision on looking into the creation of a department of economic research within the Association, it was regularly moved, seconded and voted that Doctor Francis E. West be named chairman of a committee for that purpose, he to name the other members, subject to Council confirmation.

7. *Advisory Committee to State Department of Social Welfare:*

On motion duly made and seconded, it was voted to authorize Doctor Donald C. Harrington to arrange for a meeting of the Advisory Committee to the State Department of Social Welfare in the headquarters of the Los Angeles County Medical Association.

8. *Time and Place of Next Meeting:*

It was agreed that the next meeting of the Council would be held in San Francisco on Saturday, June 7, 1958. It was also agreed that members be given an opportunity to express their wishes on the possibility of scheduling some meetings in mid-week.

Adjournment:

There being no further business to come before it, the meeting was adjourned at 6:55 p.m.

DONALD D. LUM, M.D., *Chairman*
ALBERT C. DANIELS, M.D., *Secretary*

In Memoriam

ALBERTON, EDMUND C. Died in San Francisco, April 19, 1958, aged 41, of heart disease. Graduate of the University of California School of Medicine, Berkeley-San Francisco, 1941. Licensed in California in 1941. Doctor Alberton was a member of the San Francisco Medical Society.

✣

ANDERSON, AXCEL ENGELBERT. Died in Pasadena, April 11, 1958, aged 81. Graduate of the University of Michigan Medical School, Ann Arbor, 1904. Licensed in California in 1914. Doctor Anderson was a life member of the Fresno County Medical Society.

✣

ANDERSON, CHARLES LEE. Died in San Jose, February 21, 1958, aged 54. Graduate of Emory University School of Medicine, Emory University, Georgia, 1928. Licensed in California in 1946. Doctor Anderson was a member of the Santa Clara County Medical Society.

Barkan, Otto. Died in San Francisco, April 26, 1958, aged 71. Graduate of Ludwig-Maximilians-Universität Medizinische Facultät, München, Bavaria, Germany, 1914. Licensed in California in 1919. Doctor Barkan was a member of the San Francisco Medical Society.

✤

Brock, Lois Holmes. Died November 6, 1957, aged 56. Graduate of the University of California School of Medicine, Berkeley-San Francisco, 1928. Licensed in California in 1928. Doctor Brock was a retired member of the San Francisco Medical Society and the California Medical Association, and an associate member of the American Medical Association.

✤

Clark, John A. Died March 6, 1958, aged 79. Graduate of the University of California School of Medicine, Berkeley-San Francisco, 1907. Licensed in California in 1907. Doctor Clark was a member of the Santa Clara County Medical Society.

✤

Corbett, Elizabeth. Died in San Jose, March 23, 1958, aged 41. Graduate of the University of Kansas School of Medicine, Lawrence-Kansas City, 1943. Licensed in California in 1955. Doctor Corbett was an associate member of the Santa Clara County Medical Society.

✤

Crump, John Howard. Died in Long Beach, May 2, 1958, aged 52. Graduate of New York Medical College, Flower and Fifth Avenue Hospitals, New York City, 1937. Licensed in California in 1940. Doctor Crump was a member of the Los Angeles County Medical Association.

✤

Cutting, James Arthur. Died in Beverly Hills, April 24, 1958, aged 74. Graduate of Cooper Medical College, San Francisco, 1911. Licensed in California in 1911. Doctor Cutting was a retired member of the Santa Clara Medical Society and the California Medical Association, and an associate member of the American Medical Association.

✤

Ellis, Leland W. Collapsed and died at the San Gabriel Country Club, April 10, 1958, aged 61. Graduate of the Stanford University School of Medicine, Stanford-San Francisco, 1921. Licensed in California in 1921. Doctor Ellis was a retired member of the Los Angeles County Medical Association and the California Medical Association, and an associate member of the American Medical Association.

✤

Harbaugh, Ross W. Died in San Francisco, April 2, 1958, aged 64, in an automobile collision. Graduate of Stanford University School of Medicine, Stanford-San Francisco, 1913. Licensed in California in 1913. Doctor Harbaugh was a retired member of the San Francisco Medical Society and the California Medical Association, and an associate member of the American Medical Association.

✤

Henry, L. L. Died April 20, 1958, aged 63. Graduate of the University of Michigan Medical School, Ann Arbor, 1925. Licensed in California in 1935. Doctor Henry was a member of the Los Angeles County Medical Association.

Heuschele, William Henry. Died in San Jose, January 20, 1958, aged 73. Graduate of Ensworth Medical College, St. Joseph, Missouri, 1910. Licensed in California in 1918. Doctor Heuschele was a retired member of the Santa Clara County Medical Society and the California Medical Association, and an associate member of the American Medical Association.

✤

MacFarlane, Arthur H. Died March 17, 1957, aged 86. Graduate of the University of Louisville School of Medicine, Louisville, Kentucky, 1896. Licensed in California in 1897. Doctor MacFarlane was a retired member of the Santa Clara County Medical Society and the California Medical Association, and an associate member of the American Medical Association.

✤

McBurney, Benjamin A. Died December 27, 1957, aged 84. Graduate of the Chicago Homeopathic Medical College, 1896. Licensed in California in 1917. Doctor McBurney was a retired member of the Los Angeles County Medical Association and the California Medical Association, and an associate member of the American Medical Association.

✤

McEachen, Esther Isabella. Died March 3, 1958, aged 65. Graduate of the University of Nebraska College of Medicine, Omaha, 1927. Licensed in California in 1949. Doctor McEachen was a member of the Los Angeles County Medical Association.

✤

O'Hara, John Gerald. Died in Woodland, March 20, 1958, aged 46, of cancer. Graduate of the St. Louis University School of Medicine, St. Louis, Missouri, 1936. Licensed in California in 1937. Doctor O'Hara was a member of the Yolo County Medical Society.

✤

Paul, James Richard. Died in Los Angeles, March 28, 1958, aged 42, of lobar pneumonia. Graduate of the University of Nebraska College of Medicine, Omaha, 1942. Licensed in California in 1951. Doctor Paul was a member of the Los Angeles County Medical Association.

✤

Rinkenberger, Fred W. Died March 10, 1958, aged 79. Graduate of the University of Illinois College of Medicine, Chicago, 1906. Licensed in California in 1911. Doctor Rinkenberger was a life member of the Los Angeles County Medical Association.

✤

Smith, Herbert Gordon. Died in Palo Alto, February 4, 1958, aged 57. Graduate of McGill University Faculty of Medicine, Montreal, Canada, 1923. Licensed in California in 1926. Doctor Smith was a member of the Santa Clara County Medical Society.

✤

Strange, Shelby Phipps. Died April 6, 1958, aged 82. Graduate of Cooper Medical College, San Francisco, 1912. Licensed in California in 1912. Doctor Strange was a member of the San Francisco Medical Society.

✤

Wahl, Hugo A. Died February 9, 1957, aged 87. Graduate of the College of Physicians and Surgeons of San Francisco, 1900. Licensed in California in 1900. Doctor Strange was a retired member of the San Francisco Medical Society and the California Medical Association, and an associate member of the American Medical Association.

CALIFORNIA MEDICAL ASSOCIATION

Annual Meeting

Civic Auditorium

SAN FRANCISCO

February 22 to 25, 1959

Papers for Presentation

If you have a paper that you would like to have considered for presentation, it should be submitted *to the appropriate section secretary* (see list on this page) no later than September 1, 1958.

Scientific Exhibits

Space is available for scientific exhibits. If you would like to present an exhibit, please write immediately to the office of the California Medical Association, 450 Sutter Street, San Francisco 8, for application forms. To be given consideration by the Committee on Scientific Work, the forms, completely filled out, must be in the office of the California Medical Association no later than September 1, 1958. (No exhibit shown in 1958, and no individual who had an exhibit at the 1958 session, will be eligible until 1960.)

SCIENTIFIC PAPERS
SCIENTIFIC EXHIBITS
PLANNING MAKES PERFECT
AN EARLY START HELPS

SECRETARIES OF SCIENTIFIC SECTIONS

ALLERGY	**George F. Harsh**	2001 Fourth Avenue, San Diego 1
ANESTHESIOLOGY	**Charles D. Anderson**	429 30th Street, Oakland 9
DERMATOLOGY AND SYPHILOLOGY	**Herbert L. Joseph**	607 Carolina Street, Vallejo
EAR, NOSE AND THROAT	**Ewing Seligman**	9735 Wilshire Boulevard, Beverly Hills
EYE	**A. Ray Irvine, Jr.**	2010 Wilshire Boulevard, Los Angeles 57
GENERAL PRACTICE	**James S. Eley**	624 Harris Street, Eureka
GENERAL SURGERY	**William F. Pollock**	2200 Santa Monica Boulevard, Santa Monica
INDUSTRIAL MEDICINE AND SURGERY	**Gandolph A. Prisinzano**	4041 H Street, Sacramento 19
INTERNAL MEDICINE	**Edward Shapiro**	123 North San Vicente Boulevard, Beverly Hills
OBSTETRICS AND GYNECOLOGY	**Donald R. Nelson**	2439 Ocean Avenue, San Francisco 27
ORTHOPEDICS	**Howard A. Mendelsohn**	415 North Camden Drive, Beverly Hills
PATHOLOGY AND BACTERIOLOGY	**Leo Kaplan**	8720 Beverly Boulevard, Los Angeles 48
PEDIATRICS	**Gordon L. Richardson**	10711 Riverside Drive, North Hollywood
PHYSICAL MEDICINE	**Carrie E. Chapman**	VA Hospital, 13th and Harrison Streets, Oakland 12
PSYCHIATRY AND NEUROLOGY	**John D. Moriarty**	7046 Hollywood Boulevard, Hollywood 28
PUBLIC HEALTH	**Carolyn B. Albrecht**	920 Grand Avenue, San Rafael
RADIOLOGY	**William H. Graham**	630 East Santa Clara Street, San Jose 12
UROLOGY	**Earl F. Nation**	112 North Madison Avenue, Pasadena 1

WOMAN'S AUXILIARY

TO THE CALIFORNIA MEDICAL ASSOCIATION

DEAR DOCTOR:

Do you know, sir, that one of your greatest assets is the Woman's Auxiliary to the California Medical Association?

Our program is based upon the fundamental fact that as wives of physicians we are privileged to gather together into groups as auxiliaries (in other words, as aids or helpers) to your county, state and national societies.

We are nearly seven thousand physicians' wives as organized members.

Some of the stipulations of our organizational policies and objectives are to assist your medical societies in their efforts on behalf of their program for the advancement of medicine and public health, and to participate in such activities as requested by your medical societies.

Where, I ask you, could you obtain the services of seven thousand people who would be so equipped as to fulfill the various demands of an exacting profession and present them in a creditable manner to your local communities, to your patients and to your fellow Americans—at any price?

Our priority projects vary from time to time. We are ever alert to the changing times and to the current problems which progress presents.

At present our priority projects are Legislation, Public Relations, American Medical Education Foundation, Nurse Recruitment, *Today's Health* and Physicians' Benevolence.

By your direction, we shall alert our members to the dangers of pending legislation as it will affect your profession and the people in our communities. The action taken will be in accordance with the decisions of our Advisory Board of your medical societies and under their direction.

Public Relations

In all of our efforts we are aware of the value of good public relations, of the impressions created by the type of programs we present, of the form of our philanthropic programs and of the various recipients of these efforts.

Nurse Recruitment

Nurse Recruitment has proved a most satisfactory project in its many phases.

With regard to public relations, recruitment has been our most gratifying activity. Many young women have been encouraged to make nursing their career. Many others have been enabled to continue in training through scholarships and loans provided for by social benefits on the county level.

We have dozens of student nurse clubs all over the state. Through the cooperation of the public schools, girls in high schools and junior high schools are encouraged to join Future Nurses clubs. They are enthusiastic and seem eager to embrace this advantage in planning their future goals.

A little distantly removed, perhaps, from nursing careers, but still with the possibility of recruiting a few aspirants, is our "GEMS" program (Good Emergency Mother Substitutes). Groups of young girls and a few boys are formed into clubs to be trained in the functions of serving as baby sitters.

Our county chairmen of GEMS have work books to use as guides, and the importance of the responsibility of the sitter to the child she attends, to the parents and to her own safety is stressed. One county auxiliary has trained and "graduated" ten classes of ten students each in the past year. Good public relations? We think so!

At your suggestion, we have given the American Medical Education Foundation our heartiest support; and again through social benefits we have managed to contribute substantially to the success of this project. Every year since the Foundation was established, our California Auxiliary has received an award from the American Medical Association for its contributions.

As magazine saleswomen, perhaps we won't take the prizes; however, we are trying, and every year we are producing bigger and better results with *Today's Health.* It is another of our obligations, and we hope to put it over the top in the near future.

Physicians' Benevolence

Physicians' Benevolence is another important obligation in our program, and our aim is to contribute a dollar a year per member. We usually exceed that amount.

We are a working community service group, rather than a meeting type of organization, and as our theme this year is "Cooperate and Achieve," we hope to develop our activities to give motivation and a sense of participation and achievement to each individual member by cooperation.

We need your cooperation also, doctor, to help us achieve our goals. Does your wife belong to the local Auxiliary? If not, won't you please encourage her to join us? With an enlarged membership, our effectiveness can be greatly increased.

As the official spokesman for the members of the Woman's Auxiliary, I would like to thank the members of the California Medical Association for their recognition of our efforts by presenting me to their House of Delegates at their closing meeting of the 1958 Annual Session, and for the armful of beautiful red roses.

The continued efforts of the Auxiliary membership will be a pleasure.

MRS. NEWELL JONES
President, Woman's Auxiliary to the California Medical Association

NEWS & NOTES

NATIONAL • STATE • COUNTY

LOS ANGELES

Dr. Ralph A. Kutzmann of Los Angeles was installed as president of the American Urological Association at the recent annual meeting of that organization in New Orleans.

* * *

Dr. George C. Griffith, Pasadena, was elected president of the Los Angeles County Heart Association at the annual membership meeting of the organization last month.

* * *

Results of the State **Golf Tournament of the California Medical Association,** held at the Wilshire Country Club April 28, with the Southern California Medical Golf Association as host, were as follows:

The perpetual trophy presented by Boyle & Company for field low net was won by Dr. Herbert Duncan (84-17-67). The field low gross trophy, donated by the Eldon H. Canright Company, was won by Dr. Paul Travis with a 72.

Winners in Class A (first, second, third, and fourth low net, respectively) were Drs. John Gerich (79-12-67), Leland Blanchard (76-8-68), R. H. Bandelier (84-15-69), and Paul E. Rekers (82-13-69). First, second, third, and fourth low gross winners were Drs. J. Gordon Erickson (74), Walter Kearns (76), Mr. Richard Ries (77), and Dr. Thomas Maxwell (78).

Winners in Class B (first, second, third, and fourth low net, respectively): Drs. J. H. Abramson (81-14-67), LeRoy Mundall (87-19-68), Victor Hallstone (88-17-71), John E. Novak (89-18-71). First, second, third, and fourth low gross, respectively: Drs. Homer Pheasant (83), Roy E. Fallas (83), Ulrich C. Wissner (85), and Henry K. Oetting (88).

Winners in Class C (first, second, third, and fourth low net, respectively): Drs. Michael Lau (94-24-70), Ralph Ferguson (95-25-70), Mr. Eldon H. Canright (96-25-71), and Dr. William R. Molony, Jr. (100-28-72). First, second, third, and fourth low gross, respectively: Drs. Tom Gairdner (93), Royal C. Payne (93), Robert Ellenburg (94), and Sidney Shear (95).

SAN FRANCISCO

The appointment of **Dr. Robert H. Alway as dean of Stanford University School of Medicine** was announced recently by Dr. Wallace Sterling, president of the university. Dr. Alway had been acting dean for the past year, and now "has been persuaded to reconsider his original refusal to consider appointment" on a permanent basis, Dr. Sterling said.

* * *

The 24th annual meeting of the **American College of Chest Physicians** will be held in San Francisco, June 18 to 22, immediately before the opening of the meeting of the American Medical Association there.

* * *

Dr. M. Coleman Harris was elected secretary of the American College of Allergists at the annual meeting held in Atlantic City, April 20 to 25.

* * *

Dr. R. Glenn Craig, associate professor of clinical gynecology, University of California School of Medicine, San Francisco, was installed as president of the American College of Obstetricians and Gynecologists at the recent meeting of the organization in Los Angeles.

* * *

All **alumni of Northwestern University Medical School** (and their wives if present) are invited to a luncheon Tuesday, June 24 at 12:30 p.m., at the Hotel Canterbury, 750 Sutter Street, San Francisco.

* * *

The annual luncheon of the **Christian Medical Society** will be held at the Fairmont Hotel, San Francisco, June 23, at noon. Billy Graham will be the speaker. Physicians and their wives are invited. Reservations and further information may be obtained from Merrill J. Alexander, M.D., 460 Winston Drive, San Francisco 27, telephone LOmbard 6-4573.

TRINITY

Dr. V. Thery Neff, formerly of Fresno, has been appointed county physician of Trinity County by the board of supervisors. The post had been vacant since the resignation of Dr. Robert Breeden in January of this year. Dr. Breeden retained his position as the county's health officer.

GENERAL

The California State Department of Public Health has announced that after July 1, 1958, physicians sending **Confidential Morbidity Reports** to local health departments must use regular stamped envelopes rather than the 3½"x6" manila, postage-free envelopes previously supplied for this purpose. The postage-free privilege is being discontinued for morbidity reports as an economy move by the Federal Government.

Present supplies of envelopes should either be destroyed or sent to the local health officer since their use after July 1 will be in violation of federal postal laws, the announcement said.

It was suggested that, when convenient, physicians report cases of communicable diseases to the local health department by telephone.

* * *

The Arthritis and Rheumatism Foundation has announced the availability of **predoctoral, postdoctoral and senior investigatorship awards** in the fundamental sciences related to arthritis for work beginning July 1, 1959. Deadline for applications is October 31, 1958.

The program provides for three awards: Predoctoral Fellowships, limited to students who hold a bachelor's degree, tenable for one year, with stipends ranging from $1.500 to $3,000 per year; Postdoctoral Fellowships, limited to applicants with an M.D. or Ph.D. or their equivalent, tenable for one year, with stipends ranging from $4,000 to $6,000 per year; and Senior Investigatorship, for candidates holding or eligible for a "faculty rank" such as instructor or assistant professor (or equivalent) and who are sponsored by their institution. Stipends are from $6,000 to $7,500 per year and are tenable for five years.

Further information may be obtained from the Medical Director, Arthritis and Rheumatism Foundation, 10 Columbus Circle, New York 19, N. Y.

POSTGRADUATE
EDUCATION NOTICES

THIS BULLETIN of the dates of postgraduate education programs and the meetings of various medical organizations in California is supplied by the Committee on Postgraduate Activities of the California Medical Association. In order that they may be listed here, please send communications relating to your future medical or surgical programs to: Mrs. Margaret H. Griffith, Director, Postgraduate Activities, California Medical Association, 2975 Wilshire Boulevard, Los Angeles 5.

UNIVERSITY OF CALIFORNIA AT LOS ANGELES

Techniques of Hypnosis (enrollment limited). Monday through Wednesday, June 16 to 18. Fifteen hours. Fee: $65.00.

Advanced Techniques and Application of Hypnosis (enrollment limited). Wednesday through Friday, June 18 to 20. Fifteen hours. Fee: $110.00.

Public Health Practices: Contributions of the Behavioral Sciences to Public Health Medicine (enrollment limited). Wednesday, June 18 to July 23. Thirty-six hours. No fee.

Dissection of the Thorax, Abdomen and Pelvis (enrollment limited to 32). Friday and Saturday, June 27 and 28. Twelve hours. Fee: $125.00.

Techniques of Surgery. Monday through Friday (limited to 14), July 28 to August 1. Forty hours: Fee: $500.00.

Internal Medicine (at University of California Residential Conference Center, Lake Arrowhead), Wednesday through Saturday, August 20 to 23. Sixteen hours. Fee $150.00 (including room and meals).

Anesthesiology. Wednesday through Friday, August 27 through August 29. Sixteen hours. Fee: $50.00.

Contact: Thomas H. Sternberg, M.D., Assistant Dean for Postgraduate Medical Education, U.C.L.A., Los Angeles 24. BRadshaw 2-8911, Ext. 7114.

UNIVERSITY OF CALIFORNIA, SAN FRANCISCO

Microbiology and Immunology in Clinical Medicine. Tuesday through Friday, July 22 through July 25. Sixteen hours. Fee: $40.00.

Refresher Course in Anatomy. Monday through Friday, July 28 through August 1. Thirty-five hours. Fee: $75.00.

Selected Topics in Physiology and Pharmacology. Monday through Tuesday, August 4 through August 12. Thirty-two hours. Fee: $75.00.

Fundamental Principles of Radioactivity and the Diagnostic and Therapeutic Uses of Radioisotopes. Two or three month course limited to one enrollee per month. Fee: $350.00.

Contact: Seymour M. Farber, M.D., Head, Postgraduate Instruction, Office of Medical Extension, University of California Medical Center, San Francisco 22. MOntrose 4-3600, Ext. 665.

STANFORD UNIVERSITY SCHOOL OF MEDICINE

Morning Clinical Conferences, each Monday, Room 515. *Contact:* D. H. Pischel, M.D., Professor, Division of Ophthalmology, Stanford University School of Medicine, 2398 Sacramento St., San Francisco 15.

UNIVERSITY OF SOUTHERN CALIFORNIA, LOS ANGELES

Cardiac Resuscitation. Sponsored by the Los Angeles County Heart Association each Wednesday throughout the year, 4 to 6 p.m., USC Medical Research Building, Room 211, 2025 Zonal Avenue. Residents and interns of Los Angeles County, and all armed forces medical personnel admitted without fee. Tuition for all other physicians $30.00. (Each session all-inclusive.)

Basic Home Course in Electrocardiography. One year Postgraduate Series, electrocardiogram interpretation by mail. Physicians may register at any time and receive all 52 issues. Fifty-two weeks. Fee: $100.00.

Advance Home Course in Electrocardiography. One year postgraduate series, electrocardiogram interpretation by mail. Fifty-two issues: $85.00. Physicians may register at any time.

Special Announcement: From August 5 to August 21, 1958, the University of Southern California School of Medicine will hold a postgraduate course in Honolulu and on board the *S.S. Matsonia.* The course will center around actual case histories, which will be used to emphasize diagnostic and therapeutic features.

Contact: Phil R. Manning, M.D., Director, Postgraduate Division, University of Southern California School of Medicine, 2025 Zonal Avenue, Los Angeles 33. CApital 5-1511.

COLLEGE OF MEDICAL EVANGELISTS

Audio-Visual Postgraduate Refresher Courses. Courses are made up of four or more half-hour lectures each, recorded on hi-fi magnetic tape and illustrated by 35-mm. filmstrips or slides in full color, and adapted for use on any standard tape recorder and filmstrip or slide projector, automatic or manual.

Contact: Paul D. Foster, M.D., chairman, Committee on Audio-Visual Courses, College of Medical Evangelists School of Medicine, 316 North Bailey St., Los Angeles 33.

* * *

AUDIO DIGEST FOUNDATION, a nonprofit subsidiary of the C.M.A., now offers (on a subscription basis) a series of hour-long tape recordings designed to keep the physician abreast of current happenings in his particular field. Composed of practice-useful abstracts from 600 leading journals, with short lectures and editorial comments from prominent physicians, Audio Digest offers programs covering general practice, surgery, internal medicine, obstetrics and gynecology, and pediatrics.

AUDIO-DIGEST plans to begin a new series of programs covering the specialty of Anesthesiology. The first of these will be issued on or about September 1, 1958. Those wishing to be charter subscribers to this tape-recorded review of what is new and important in the field of Anesthesiology should write to Mr. Claron L. Oakley, Editor, 1919 Wilshire Boulevard, Los Angeles 57, DUnkirk 7-2067, for order form and further information.

Contact: Claron L. Oakley, editor, 1919 Wilshire Blvd., Los Angeles 57.

Medical Dates Bulletin

JUNE MEETINGS

American College of Physicians, Course in Internal Medicine, University of California Medical Center, San Francisco, June 16 to June 22, all day, each day. *Contact:* E. R. Loveland, executive secretary, American College of Physicians, 4200 Pine Street, Philadelphia 4, Pennsylvania.

Symposium on Nutrition and the Aging Process to be held at the Highland-Alameda County Hospital, June 18 and 19, under auspices of American Geriatrics Society and Alameda-Contra Costa Medical Association. Symposium is directed specifically toward clinicians. Tuition is $25 to nonmembers of organizations involved. *Contact:* Laurance W. Kinsell, M.D., Director, Institute for Metabolic Research, 2701 14th Ave., Oakland 6.

American College of Chest Physicians 24th Annual Meeting, June 18 to 22, San Francisco. *Contact:* Mr. Murray Kornfeld, executive director, 112 East Chestnut St., Chicago 11, Ill.

American Medical Association Annual Meeting, June 23 to 27, San Francisco. *Contact:* American Medical Association, 535 North Dearborn St., Chicago 10.

American Proctologic Society, June 29 to July 3, Los Angeles. *Contact:* Norman D. Nigro, M.D., secretary, 10 Peterboro St., Detroit 1, Michigan.

JULY AND AUGUST MEETINGS

Hawaii Medical Association Summer Conference, July 1 through July 3, Honolulu. *Contact:* Lee McCaslin, executive secretary, 510 S. Beretania St., Honolulu.

Idaho State Medical Association Annual Convention, July 6 to 9, Sun Valley, Idaho. *Contact:* Armand L. Bird, executive secretary, 364 Sonna Building, Boise.

Rocky Mountain Cancer Conference, July 9 and 10, Shirley-Savoy Hotel, Denver. *Contact:* Alexis E. Lubchenco, M.D., 835 Republic Bldg., Denver 2, Colo.

New Mexico Chapter Academy of General Practice Ruidosa Summer Clinic, July 21 through July 24, Ruidosa, New Mexico. *Contact:* Frederick R. Brown, M.D., secretary-treasurer, 207 N. Union, Roswell, New Mexico.

Western Regional Meeting, International College of Surgeons, Riverside Hotel, Reno, Nevada, August 21 to 23. *Contact:* Leo D. Nannini, M.D., 190 Mill Street, Reno, Nevada. For reservations, write Riverside Hotel, Reno, Nevada.

FALL AND WINTER MEETINGS

Saint John's Hospital Postgraduate Assembly, September 11 through September 14, Saint John's Hospital, Santa Monica. *Contact:* John C. Eagan, M.D., director, Postgraduate Assembly, 22nd St. at Santa Monica Blvd., Santa Monica.

Washington State Medical Association Annual Convention, September 14 to 17, 1958, Spokane, Washington. *Contact:* Ralph W. Neill, executive secretary, 1309 Seventh Ave., Seattle, Wash.

Twelfth Annual Postgraduate Assembly, September 17 and 18, San Diego County General Hospital, San Diego. *Contact:* William T. Nute, executive secretary, San Diego County Medical Society, 3427 Fourth Avenue, San Diego 3.

Nevada State Medical Association Annual Meeting, September 17 through 20, Elko, Nevada. *Contact:* Nelson B. Neff, executive secretary, P. O. Box 188, Reno.

Pacific Dermatologic Association Tenth Annual Meeting, September 18 through 20, Hotel del Coronado, Coronado, Calif. *Contact:* Louis H. Winer, M.D., secretary-treasurer, 9915 Santa Monica Blvd., Beverly Hills, Calif.

Colorado State Medical Society Annual Session, September 24 through 27, Broadmoor Hotel, Colorado Springs. *Contact:* Harvey T. Sethman, executive secretary, 835 Republic Bldg., Denver 2.

California Academy of General Practice Tenth Annual Scientific Assembly, October 5 to 8, Masonic Temple, San Francisco. *Contact:* William W. Rogers, executive secretary, 461 Market Street, San Francisco 5.

Fifth Annual Fort Miley Surgical Clinics and Symposia sponsored by the San Francisco Academy of General Practice in cooperation with Faculties of Stanford University School of Medicine and University of California School of Medicine at Fort Miley Veterans Administration Hospital, 42nd Avenue and Clement Street, San Francisco, will start on October 14, 1958 at 8 p.m. and each Tuesday thereafter ending November 18, 1958. *Contact:* Alexander F. Fraser, M.D., 3490 20th Street, San Francisco.

California Society of Internal Medicine Annual Meeting, October 17 to 19, Ahwahnee Hotel, Yosemite. *Contact:* Mrs. Mildred B. Coleman, executive secretary, or Dr. Clyde C. Greene, secretary-treasurer, 350 Post St., San Francisco 8.

American Heart Association Scientific Sessions and Meetings, October 24 to 28, Fairmont Hotel and Civic Auditorium, San Francisco. *Contact:* J. Keith Thwaites, executive director, California Heart Association, 1428 Bush Street, San Francisco 9.

Los Angeles County Heart Association 28th Annual Professional Symposium, October 29 and 30, Wilshire Ebell Theater. *Contact:* Los Angeles County Heart Association, 660 S. Western Ave., Los Angeles 5, DUnkirk 5-4231.

Santa Barbara County Heart Association, Professional Symposium, 9 to 5 p.m., November 1, Biltmore Hotel, Santa Barbara. *Contact:* Mrs. Katherine McCloskey, executive director, 18 La Arcada Court, Santa Barbara.

California Medical Association Annual Meeting, February 22 through February 25, 1959, Palace Hotel, San Francisco. *Contact:* John Hunton, executive secretary. 450 Sutter Street, San Francisco 8; or Ed Clancy, director of Public Relations, 2975 Wilshire Blvd., Los Angeles 5.

THE PHYSICIAN'S *Bookshelf*

GYNECOLOGIC AND OBSTETRIC PATHOLOGY—With Clinical and Endocrine Relations—Fourth Edition—Emil Novak, A.B., M.D., D.Sc. (Hon. Trinity College, Dublin, Tulane), F.A.C.S., F.R.C.O.G. (Hon.). Late Assistant Professor Emeritus of Gynecology, The Johns Hopkins Medical School; Gynecologist, Bon Secours and St. Agnes Hospitals, Baltimore; Fellow and Past President, American Gynecological Society; and Edmund R. Novak, A.B., M.D., Assistant Professor of Gynecology, The Johns Hopkins Medical School; Gynecologist, Johns Hopkins, Bon Secours, Hospital for the Women of Maryland, and Union Memorial Hospitals, Baltimore, Md. Published by W. B. Saunders Co., Philadelphia and London, 1958. 650 pages, $14.00.

W. B. Saunders Company of Philadelphia and London has just published a fourth edition of Emil Novak's "Gynecologic and Obstetric Pathology" to which the name of Edmund R. Novak has been added as co-author. One wonders why this has been done since this new edition essentially is a reprint of the third edition with very few minor changes in the text. It is fortunate, indeed, that this valuable treatise has not been disturbed materially for it is a classic as it stands and as such constitutes a living memorial to Emil Novak.

Aside from an occasional rearrangement of illustrations, the list of references has been augmented. Regrettably, the chapter dealing with common breast lesions of gynecologic interest has been dropped. The chapter concerned with abnormalities and diseases of the placenta previously authored by L. M. Hellman, appears now under the authorship of R. E. L. Nesbitt, Jr., who has made a few minor changes in the text and illustrative material. A valuable addition is a concise chapter on exfoliative cytopathology, authored by John H. Frost, which furnishes all the essentials for the better understanding of this diagnostic procedure.

Novak's Pathology is too well known to need any praise. Its final edition is a worthy tribute by the publishers to the memory of an indefatigable student.

Ludwig A. Emge, M.D.

* * *

CARDIOVASCULAR REHABILITATION—Edited by Paul Dudley White, M.D., Massachusetts General Hospital, Boston; Howard A. Rusk, M.D., Director, Institute of Physical Medicine and Rehabilitation, New York-Bellevue Medical Center; Bryan Williams, M.D., Clinical Instructor in Medicine, Southwestern Medical School, University of Texas; and Philip R. Lee, M.D., Department of Internal Medicine, Palo Alto Clinic. The Blakiston Division, McGraw-Hill Book Company, Inc., New York, N. Y., 1957. 155 pages, $6.50.

This book summarizes a conference held at the New York University-Bellevue Medical Center in May 1956. The 35 participants include many well-known teachers and investigators in cardiology and occupational medicine. The format of the panel discussion has been retained, making for readable, personal discussions organized into five chapters on emotions, work, and the practice, teaching and research in cardiovascular rehabilitation. There is no index, but an excellent reference section of 29 pages is included.

As emotions affect cardiovascular physiology, anxieties affect rehabilitation, obscuring or mimicking symptoms. Iatrogenic heart disease does not escape discussion.

Measurements of energy expenditures at work are shown to vary enormously with emotional and environmental stress. A skilled worker who likes his job, in a comfortable environment without tension, minimizes the metabolic cost of exertion. The total energy cost of the day, at work and at home, determines work tolerance and negates the rule, "work done in comfort is done in safety," particularly for those who retain salt and water and are awakened at night by acute pulmonary edema.

Although coronary disease does not make a better employee, those who return to work have less absenteeism than the average employee. Often patients with angina have fewer pains on the job than off.

The practice of cardiovascular rehabilitation requires an estimation of prognosis based on accurate diagnosis, and requires the physician to transmit to the patient the expectation of return to work. The role of the Cardiac Work Classification Units of the American Heart Association in educating physicians and employers in the feasibility of this expectation is stressed. These units teach the use of social workers and vocational counselors as consultants, not the abandonment of the patient to ancillary workers. Disability is a social, legal and economic term more than a medical one, related to the availability of jobs as much as to the skills and cardiac limitations of the patient; yet these limitations require that control of the patient be retained by the physician.

The book supplies little new knowledge, but illustrates how the application of available knowledge can result in great medical and social progress, and can add enormously to the effectiveness of the practicing physician. The principles of cardiovascular rehabilitation should permeate cardiovascular teaching at all levels.

Vernon C. Harp, Jr., M.D.

* * *

URINE AND THE URINARY SEDIMENT—Second Edition—Richard W. Lippman, B.S., M.D., Fellow of the John Simon Guggenheim Memorial Foundation. Charles C. Thomas, Bannerstone House, 301-327 East Lawrence Avenue, Springfield, Ill. 140 pages, $8.50.

Completely revised and set from new type, this second edition follows closely the pattern successfully established in that of 1952. The three main divisions again are concerned with proteinuria and formed elements of the sediment, a precise account of the urine in various diseases, and methods useful in urinalysis. The subtitle "A Practical Manual and Atlas" indicates what well may be the volume's most enduring value, namely, a splendid series of colored photomicrographs of the urinary sediment. Nearly doubled in number since the first edition, the illustrations show the formed elements as these are found in many renal disorders. The reproductions are excellent, and the accuracy of identification and diagnosis is supported by the author's experience as a student and associate of Thomas Addis. The book is recommended warmly to all laboratory technicians, students and physicians.

Cont, on Index

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1. Weinberg, A., and Werner, W. E. F.: Am. Pract. & Digest Treat. *6*:580 (April) 1955.
2. Codling, J. W., and Lowden, R. J.: Northwest Med. *57*:331 (March) 1958.

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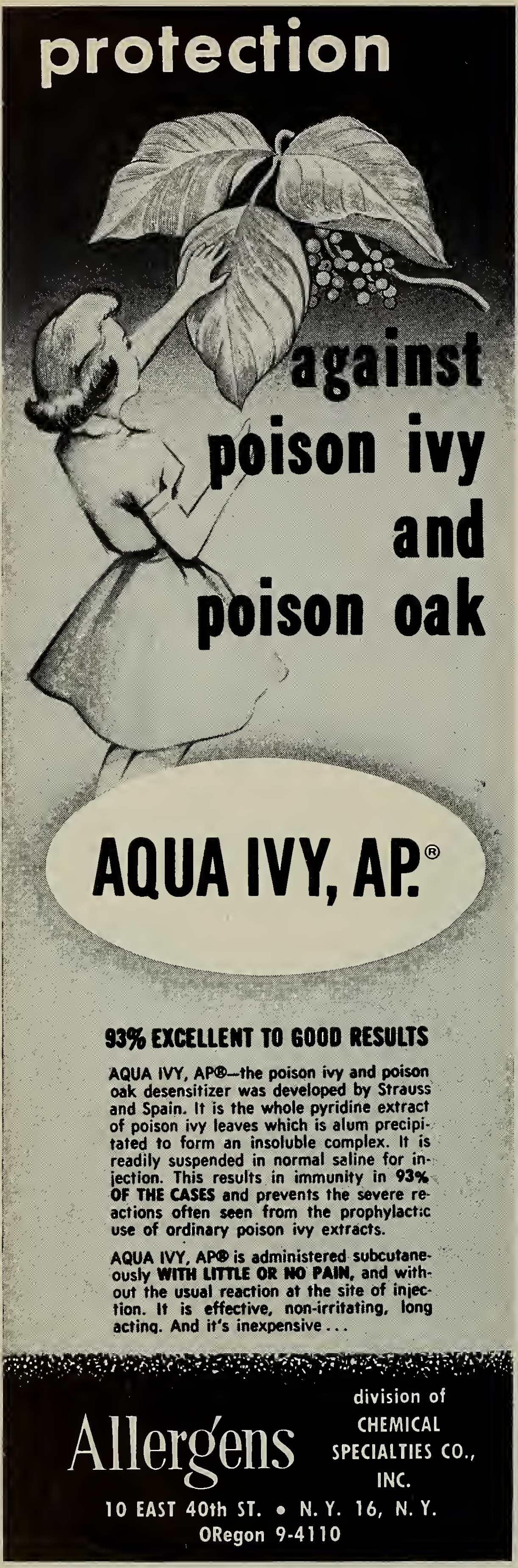

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Literature Available—Please Write Dept. C

American Medical Association Council Criticizes Color Code for Drugs

The use of color as a coding device for liquid drug preparations is "more likely to contribute to than to prevent confusion" in their identity, according to the American Medical Association Council on Drugs.

In a special report in the April 19 issue of the *Journal of the American Medical Association,* the council said the suggestion has been made that dyes be added to certain medicinal solutions as an aid to

(Continued on Page 60)

"Silent" Myocardial Infarction Rates Higher Than Expected

The number of unsuspected healed myocardial infarctions, a type of heart attack, found in a recent study of 5,000 autopsy reports was "astonishing," two Michigan physicians said.

Analysis of 5,000 consecutive autopsies performed at the Wayne County General Hospital, Eloise, Mich., between 1945 and 1955 showed 588 myocardial infarctions of which 175 had been unsuspected.

Drs. S. E. Gould and L. P. Cawley, Eloise, said, "It is astonishing that the incidence of old healed 'silent' infarcts should be as high as 3.5 per cent of all autopsies. This represents 30 per cent of all infarcted hearts encountered at autopsy."

This finding indicates that a myocardial infarct is often well tolerated by the patient, the physicians said.

The average age of these 175 patients with old, unsuspected infarcts was 71 years. They had lived out their expected life span even though they had had an unsuspected heart disorder.

Principal causes of death were pulmonary disease, 47; cardiac disease, 39; neoplastic disease, 34; vascular disease, 31, and, miscellaneous, 24.

The report appeared in the March issue of *Archives of Internal Medicine,* a publication of the American Medical Association.

Most common in the aging, myocardial infarction is a heart disease in which the cells of the heart muscle die as a result of a blood clot.

Healed infarcts are often not detected because of a lack of symptoms or signs denoting a disease of the heart. In a majority of the records analyzed, the presenting complaint or predominant physical findings on admission to the hospital pointed to some noncardiac condition.

The authors recommended that patients over 50 years of age entering hospitals with ailments other than heart disease be examined for silent myocardial infarcts if such conditions as hypertension, cerebral thrombosis, senility, diabetes, gangrene, or hypothyroidism exist.

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In 8 fl. oz., quart, gallon bottles.

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Non-greasy, "vanishing cream" type of preparation for extended tar action; easily washed from skin or clothing.
In 1 oz. tubes, 4 oz. and 1 lb. jars.

alma-tar T.M. **shampoo**
particularly effective in seborrea capitis; will not darken blonde or gray hair; easily rinses out. In 8 fl. oz. and qt. bottles.

alma-tar T.M. **soap**
used for general washing where skin is involved but not broken. In 4 oz. cakes.

alma-tar T.M. **sulfonated oil**
used where soap is contraindicated or skin is broken; low pH (6.6) approximates "acid mantle" and does not alkalize skin.
In 8 fl. oz. and quart bottles.

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Alma-Tar Ointment: contains 4% oil of cade in a bland greaseless base.

Alma-Tar Soap: contains 10% oil of cade in mild soap base.

Alma-Tar Sulfonated Oil: contains sulfonated castor oil, 5% oil of cade, and water. pH 6.8.

CLASSIFIED ADVERTISEMENTS

(Continued from Front Advertising Section, Page 34)

PRACTICES FOR SALE

SAN DIEGO—GENERAL PRACTICE established 17 years. Thriving city. Excellent hospital facilities and exceptional surgical privileges for G.P. Well equipped office; complete files, reasonable rent. Gross income more than $50,000 last year. Terms may be arranged to pay $400 per month. Specializing; moving out of town, will introduce. Main Post Office Box 1768, San Diego 12, California.

VERY ACTIVE GENERAL PRACTICE in San Francisco Bay Area for sale. I am taking a residency in July and must sell as soon as possible. Very reasonable terms. Box 94,200, California Medicine.

WILL INTRODUCE GRATIS to qualified GP or Internist my practice grossing $30,000. Lease of 1800 sq. ft. building with refrigeration necessary. Purchase of equipment optional. Available immediately. Contact F. E. Walthall, M.D., 1017 Niles Street, Bakersfield, California.

SAN DIEGO—AN ESTABLISHED GENERAL PRACTICE, 15 years in present location, with complete office equipment for sale. $2,000.00 down, liberal terms on balance. Retiring. Will stay to introduce. Box 94,245, California Medicine.

INTERNAL MEDICINE practice in fully-equipped new medical center in choice area adjoining beautiful, prosperous, growing Southern California seaside resort, stressing education and arts, no smog. Discriminating active practice, ideal for such as faculty man seeking pleasant private practice and home; to join (or replace) present internist, and general practitioner, nurse, secretary, laboratory technician. Excellent medical atmosphere and hospital affiliations. Box 94,260, California Medicine.

APPARATUS, ETC., FOR SALE

FOR SALE: Ritter urological table with Bucky and tube head and 100 MA Profex X-Ray control. Cost $6,110, never installed, must sell for $4,300. Price net, my office. Peter Esteran, M.D., 9047-H East Florence Ave., Downey, California

FOR SALE: Used General Electric combination Radiographic-Fluoroscopic X-Ray unit, 200 MA, 100 KV, Centralinear control, completely automatic with 1/20th second timer, floor to ceiling tubestand with rotating anode tube, motor driven table with Bucky, under table tube and spot film device (include cassettes therefore) $1950.00. Box 94,295, California Medicine.

GENERAL PRACTICE EQUIPMENT for sale, located in Elsinore, California. Ideal for starting new practice. Contact Security-First National Bank, P. O. Box 712, Trust Department, Riverside, California.

OFFICES FOR SALE, RENT OR LEASE

FOR RENT—Physician wanted for thriving San Francisco-Oakland area of California. New medical-dental building needs general practitioner and specialists. Suites available at once. Six months free rent. Box 94,160, California Medicine.

MEDICAL-DENTAL-PROFESSIONAL OFFICES now available, Hillview Crest Shopping Center, Hayward. Corner lot, spacious parking, located exclusively among 2,000 new residences. Two suites both containing: two 8x10 examination rooms, laboratory, nurse's office, doctor's office, storage. 650 and 850 sq. ft. $150-$200. Contact E. W. Housman, 1525 East 14th Street, San Leandro, California. ELgin 1-7027 or LOckhaven 8-7765.

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(Continued on Page 82)

Test for Normal Speaking Voice

A simple singing test that helps determine the correct pitch of a person's speaking voice was described in the April issue of *Archives of Otolaryngology.*

Writing in the American Medical Association publication, Dr. Heston L. Wilson and Warren R. Dawson, Ph.D., Seattle, said the test, along with a simple vocal exercise, can be used by physicians to help their patients correct speech problems. They noted that the use of "improper pitch is a very common type of vocal abuse."

A person can determine his proper pitch by first singing his lowest note. Frequently this is the pitch employed for his speaking voice. Then he sings a scale. A very definite change in the resonance and timbre of the tone occurs about the fourth full tone above the lowest note that he is able to sing.

A musically trained ear is not required to note the more pleasing quality of the voice at this level.

(Continued on Page 66)

American Medical Association Council Criticizes Color Code for Drugs

(Continued from Page 54)

their identification and safe use in hospitals.

However, the question arises as to whether dangerous confusion might arise by the application of different colors for the same preparations by different hospitals.

The report noted that the Federal Food and Drug Administration has discouraged the addition of dyes for coloring solutions because of a lack of adequate information regarding their compatibility and nontoxicity for this purpose.

The council also was "impressed by the practical limitations of the visual spectrum for achieving distinction between the vast number and kinds of preparations employed in medicine as well as by the existing widespread use of colored medicaments for different purposes.

"Other practical difficulties include color blindness and the use of light-protective colored glass containers for certain drug preparations."

The problem of mistakes in identity and improper use of solutions and drugs can best be met by greater emphasis on the education of all health personnel and patients "to exercise due care in applying and consulting properly informative labels," the report said.

Care should be taken to insure legibility of container labels by prominent display of the name or active ingredient as well as the potency and dosage of drug preparations. Other details should be presented as a separate package enclosure.

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June 21 and June 22, 1958

Scientific Program

SATURDAY, JUNE 21

MORNING

Recent Advances in Cardiovascular Surgery

MODERATOR: Dwight E. Harken, M.D., Surg., Peter Bent Brigham Hospital; Assoc. Clin. Prof. Surg., Harvard Medical School, Boston, Mass.

PAPERS BY: Leo Loewe, M.D., F.A.C.A., Pres., American College of Angiology, Editor Jrl. Angiology. Robert P. Glover, M.D., F.A.C.A., Director, Cardiovascular Research Laboratory and Chief of Thoracic and Cardiac Surgery. Julio C. Davila, M.D., Robert C. Trout, M.D., Presbyterian Hospital, Philadelphia, Penn. Charles F. Hufnagel, M.D., Prof. Surg. Research, Assoc. Prof. Surg., Director Experimental Laboratory, Georgetown Univ., Washington, D. C. Alvin Bakst, M.D., F.A.C.A., Clin. Assistant Prof. Surg., State Univ. N. Y., Downstate Medical Center, Brooklyn Jewish Hosp. F. Henry Ellis, Jr., M.D., Head Surg. Section, Mayo Clinic, Rochester, Minn.

AFTERNOON

The Dynamics of the Vascular System

MODERATOR: Rudolph Bircher, M.D., F.A.C.A.

PAPERS BY: Arthur L. Scherbel, M.D., Clev. Clinic., Cleveland, Ohio. Bayard T. Horton, M.D., Mayo Clinic, Rochester, Minn. Adrian M. Ostfeld, M.D., Univ. Ill. Coll. of Med., Chicago, Ill. Alfred Halpern, Ph.D., F.A.C.A., Director of Angiology Research Foundation. W. G. Kubicek, Ph.D., Univ. Minn. School of Medicine.

SUNDAY, JUNE 22

MORNING

New Concepts in Hypertension

MODERATOR: J. Earle Estes, M.D., F.A.C.A., Mayo Clinic, Rochester, Minn.

PAPERS BY: Edward D. Freis, M.D., Chief of Med. Service, V.A. Hosp., Washington, D. C. Eugene F. Poutasse, M.D., Dept. of Urology, Clev. Clinic, Cleveland, O. Grace M. Roth, M.D., Depart. of Physiology, Mayo Clinic, Rochester, Minn. Jerome W. Conn, M.D., Prof. of Med., Univ. Mich., Ann Arbor, Mich.

AFTERNOON

Experimental Angiology

MODERATOR: George P. Fulton, Ph.D., F.A.C.A., Vice President, American College of Angiology.

PAPERS BY: Claude R. Hitchcock, M.D., F.A.C.A., Frank E. Johnson, M.D., and Thomas O. Murphy, M.D., F.A.C.A., Minn. Gen. Hosp., Minneapolis, Minn. Rudolph E. Fremont, M.D., F.A.C.A., and Robert Klopstock, M.D., V.A. Hospital, Brooklyn, N. Y.; State Univ. New York, Downstate Medical Center. James A. DeWeese, M.D. Stanley M. Rogoff, M.D., Univ. Rochester School of Med.-Dent. and Strong Memorial Hospital, Rochester, N. Y. Saul S. Samuels, M.D., F.A.C.A., David Selman, M.D., F.A.C.A., and Alfred Halpern, Ph.D., F.A.C.A., The Stuyvesant Polyclinic, New York City. Wallace Rubin, M.D., Charity Hospital, Anderson Rubin Clinic, Tulane Univ. School of Med., New Orleans, La. Marvin Wagner, M.D., F.A.C.A., Marquette Univ. School Med., Milwaukee, Wis. Shepard Shapiro, M.D., F.A.C.A., New York City. Sidney Rose, M.D., Consultant and Surgeon, Univ. of Manchester, Manchester, England.

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Parkinsonism Treatment

A recent study has given added evidence that the technique of chemopallidectomy does improve the symptoms of Parkinson's disease.

Reported in the May 3 issue of the *Journal of the American Medical Association,* the study showed that persons who had undergone the operation are "for the most part in a better position" than those who had not had the operation.

In chemopallidectomy chemicals are injected into the globus pallidus, a part of the brain. When the globus pallidus is diseased, it contributes to the development of tremor and rigidity in paralysis agitans. The operation was devised in 1953 by Dr. Irving S. Cooper of New York University-Bellevue Medical Center.

Questionnaires were returned by 106 patients with paralysis agitans who had undergone neurosurgery six months to two years and four months earlier. In addition, 103 were returned by patients who had been considered for surgery but had not been operated on.

Of the group operated on, 89 per cent reported that tremor and rigidity on the side affected by the operation maintained improvement, while only 10 per cent of the control group reported improvement. Less than 5 per cent of the first group noted any worsening of symptoms, while 57 per cent of the controls reported this.

A similar but less striking trend was seen in the

(Continued on Page 70)

Test for Normal Speaking Voice

(Continued from Page 60)

A person is often surprised at the ease with which these tones are sung, the authors said.

The pitch is subsequently checked by the person's placing his fingers tightly in his ears and again singing the scale. He is asked to find the pitch at which his ears shake or vibrate the most. Usually this is quite apparent and the tone is the same as the one found when singing the scale.

Next the person hums while making a vigorous chewing motion. He should not attempt a tune, but only the note most comfortable to him. The resultant tone is his normal speaking voice.

This humming and chewing may be used as a daily exercise. A person's ear becomes accustomed to this tone and he soon adjusts to the normal speech level.

Only a few seconds are required to habituate the ear to the new speech level, but a person must make a concerted effort to maintain this speech level in normal speaking circumstances.

Parkinsonism Treatment

(Continued from Page 66)

ability to carry out activities of daily living and housework.

The number of patients who had had surgery and were working varied little from the time of surgery. About 50 per cent of them were employed. However, 28 per cent less of the nonoperated group were working at the time of the study than at the time of evaluation.

Even among those who underwent chemopallidectomy but were not working, there was a feeling that they were better able to work. While this is not sufficient for employment, it certainly contributes to a feeling of self-respect and motivation which may later be used in carrying out further rehabilitation, the report said.

The report was made by Manuel Riklan, Ph.D., chief of the psychological and vocational services, St. Barnabas Hospital, New York, and Leonard Diller, Ph.D., psychological consultant for St. Barnabas Hospital and coordinator of training and research in psychology, New York University Institute of Physical Medicine and Rehabilitation.

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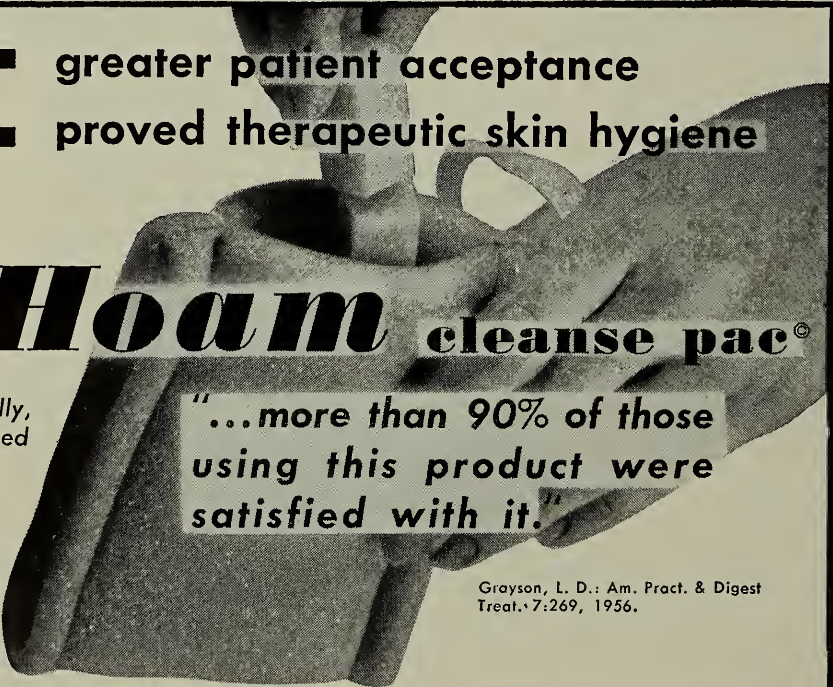

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Grayson, L. D.: Am. Pract. & Digest Treat. 7:269, 1956.

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PUBLISHED REFERENCES: 1. Carpenter, E. B.: Southern Medical Journal 51:627, 1958. 2. Forsyth, H. F.: J.A.M.A. 167:163, 1958. 3. Little, J. M., and Truitt, E. B., Jr.: J. Pharm. & Exper. Therap. 119:161, 1957. 4. Morgan, A. M., Truitt, E. B., Jr., and Little, J. M.: J. Am. Pharm. Assn., Sci. Ed. 46:374, 1957. 5. O'Doherty, D. S., and Shields, C. D.: J.A.M.A. 167:160, 1958. 6. Park, H. W.: J.A.M.A. 167:168, 1958. 7. Truitt, E. B., Jr., and Patterson, R. B., Proc. Soc. Exper. Bio. & Med. 95:422, 1957. 8. Truitt, E. B., Jr., Patterson, R. B., Morgan, A. M., and Little, J. M.: J. Pharm. & Exper. Therap. 119:189, 1957.

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Skeletal muscle spasm secondary to acute trauma	33	26	6	1	—
STUDY 2[2]		"pronounced"			
Herniated disc	39	25	13	—	1
Ligamentous strains	8	4	4	—	—
Torticollis	3	3	—	—	—
Whiplash injury	3	2	1	—	—
Contusions, fractures, and muscle soreness due to accidents	5	3	2	—	—
STUDY 3[5]		"excellent"			
Herniated disc	8	6	2	—	—
Acute fibromyositis	8	8	—	—	—
Torticollis	1	—	—	1	—
STUDY 4[6]		"significant"			
Pyramidal tract and acute myalgic disorders	30	27	—	2	1
TOTALS	138	104 (75.3%)	28 (20.3%)	4	2

THE JOURNAL
American Medical Association

"In the author's clinical experience, methocarbamol has afforded greater relief of muscle spasm and pain for a longer period of time without undesirable side effects or toxic reactions than any other commonly used relaxants . . ."[2]

THE JOURNAL
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"An excellent result, following methocarbamol administration, was obtained in all patients with acute skeletal muscle spasm."[5]

THE JOURNAL
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"In no instance was there any significant reduction in voluntary strength or intensity of simple reflexes."[6]

Southern Medical Journal

"This study has demonstrated that methocarbamol (Robaxin) is a superior skeletal muscle relaxant in acute orthopedic conditions."[1]

New Drug Called Effective In Muscle Spasm Control

A new drug that affects the central nervous system has been found to be effective in reducing skeletal muscular spasm, three separate studies have shown.

Reported in the May 10 issue of the *Journal of the American Medical Association,* the studies indicated that methocarbamol (Robaxin) is especially useful in cases of acute muscular spasm such as that resulting from a dislocated spinal disk. It is somewhat less effective in cases of spasticity resulting from such chronic conditions as a spinal cord injury or cerebral palsy.

The drug does not directly influence skeletal muscles, but acts upon certain parts of the central nervous system which in turn affect the voluntary skeletal muscles.

Methocarbamol "afforded greater relief of muscle spasm and pain for a longer period of time without undesirable side-effects or toxic reactions than any other commonly used relaxants . . . ," according to Dr. H. Francis Forsyth of Bowman Gray School of

(Continued on Page 79)

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Wergeland Will Succeed Robinson as Medicare Head

Maj. Gen. Paul I. Robinson, head of Medicare program since its establishment in December, 1956, is retiring from the Army to become coordinator of medical relations for Metropolitan Life Insurance Co. His successor as director of civilian medical and hospital services for military dependents will be Col. Floyd L. Wergeland. The latter is now chief of personnel division in the Army Surgeon General's Office. That division is to be merged with education and training division, presently headed by Col. Byron L. Steger, who will be chief of the new administrative unit. Gen. Robinson's retirement will be effective September 1, 1958 when he will have completed 30 years of active Army duty.

—*Washington Report on the Medical Sciences*

New Drug Called Effective In Muscle Spasm Control

(Continued from Page 74)

Medicine of Wake Forest College, Winston-Salem, North Carolina.

The other researchers also noted the lack of serious side-effects. However, there were a few unpleasant, but nontoxic side reactions such as lightheadedness, nausea, headache, and drowsiness. Dr. Forsyth warned that while the side reactions were "strikingly less" than with other drugs, they should be watched for "just as with any new drug."

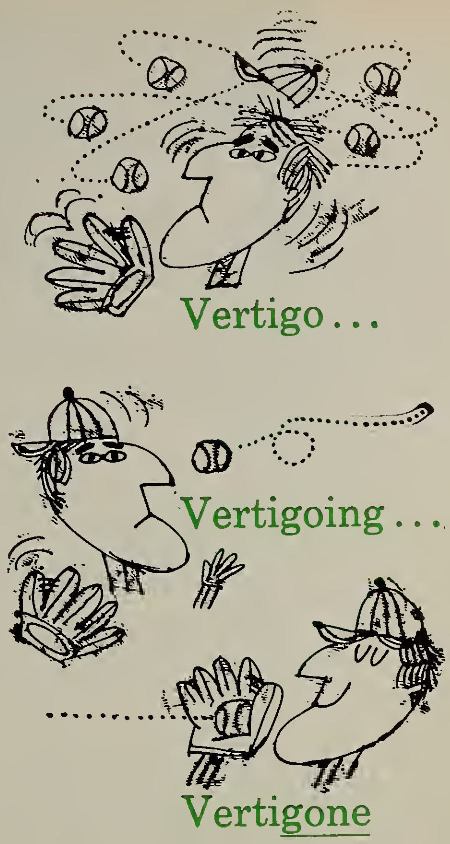
Of 100 orthopedic patients given the drug by Dr. Forsyth, 57 per cent had "pronounced" response to the drug and 37 per cent a "moderate" response.

The relief of pain and spasm was pronounced in 25 of 39 patients with dislocated spinal disks. In most instances the attacks subsided quickly so that patients could continue to work or go back to work sooner than expected.

He also found it useful for patients with spasm and pain following surgery or bone setting, with severe whiplash injuries of the neck, and with torticollis (sometimes called "wryneck") in which the contracted muscles twist the neck, producing an unusual position of the head.

Dr. Herbert W. Park, Medical College of Virginia, Richmond, also found the drug useful for acute conditions, as well as for residual spasticity following spinal cord injury, spinal cord or brain disease, and cerebrovascular accidents. It had no effect on pain and spasm from arthritis, fibromyositis and poliomyelitis, he said.

The findings of Drs. Desmond S. O'Doherty and Charles D. Shields, Georgetown University Medical Center, Washington, D. C., were similar to those of Dr. Park. In addition, they noted that methocarbamol appears to have no value in the treatment of the muscular contractures of muscular dystrophy, the rigidity of Parkinson's disease, or the spasticity of multiple sclerosis. However, they believe it warrants further study for its effect on these conditions.



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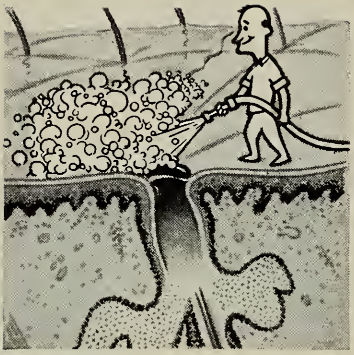

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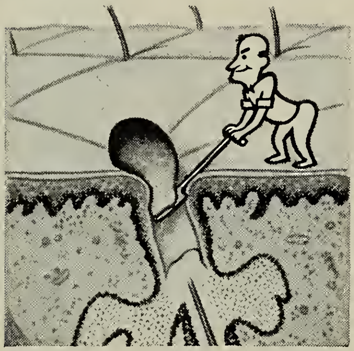

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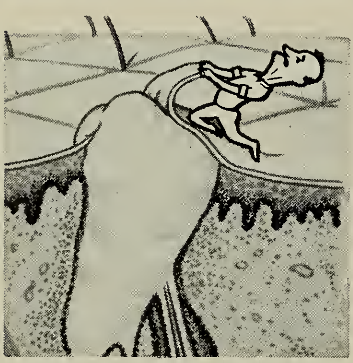

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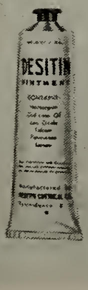

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(Continued from Page 60)

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(Continued on Page 94)

Ways to Overcome Lying By Children

When a child lies, washing his mouth out with soap, spanking him, or making him "confess" in front of others won't help him see why he should be truthful.

Instead these punishments may antagonize him to the point where he has little desire to be truthful in the future, according to Elizabeth B. Hurlock, Ph.D., Bryn Mawr, Pennsylvania, a past president of the American Psychological Association's division on the teaching of psychology.

Writing in the May issue of *Today's Health*, an American Medical Association publication, Dr. Hurlock listed some ways in which parents can help a child who lies. She noted that a child lies for two reasons: To escape punishment and to win approval.

All children misrepresent the truth at some time or other. Unless there is intent to deceive, this is not lying in the strictest sense of the word. In young children this intent usually is lacking because the child doesn't distinguish between reality and imagination.

Some ways a parent can help a child learn to tell the truth are:

1. Make sure you know why the child misrepresents the truth before you take any action. Your line of attack should be very different for intentional and unintentional deceitfulness.

2. Do not associate lying with religion by telling the child, for example, that God hears his lies and will punish him. This is likely to make him fear God and death and it will keep him from turning to religion for the satisfaction and comfort it can bring.

3. Without curbing his imagination, help him develop a critical approach to his imaginary experiences by asking questions which will force him to assess his imaginative experiences.

4. When he breaks a rule, find out whether it was intentional. Punishments that children consider unfair encourage them to try to escape future punishments by lying.

5. Let him know by word and deed that you love and approve of what he does. When he does things you disapprove of, make sure he knows they are wrong before you criticize or punish him. The child who is confident of his ability to please his parents will carry this confidence outside the home and be popular enough that he will not have to lie to win approval.

6. Find out what the parents of your child's friends expect of them and make your rules accordingly. If he knows your rules are like those of his friends, the temptation to break your rules and then lie about it will be reduced and he won't be tempted to use that stock phrase, "everybody else can do it."

7. And, finally, set a model of truthfulness for your child to imitate.

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1. Comroe's Arthritis: Hollander, J. L., p. 149 (Fifth Edition, Lea & Febiger, Philadelphia, Pa. 1953).
2. Merck Manual: Lyght, C. E., p. 1102 (Ninth Edition, Merck & Co., Inc., Rahway, N. J. 1956).

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Tubeless Gastric Analysis Gives Few False Reactions

A new study has shown that the tubeless gastric analysis technique is reliable in the presence of disease previously thought to make it useless.

Drs. Theodore Rodman, Arnold Gutman, and Ralph M. Myerson, of the Veterans Administration Hospital in Philadelphia, said the technique works even when the patient has heart disease, miscellaneous other diseases, and mild to moderately severe liver and kidney diseases.

The gastric analysis test, which detects the presence or absence of hydrochloric acid in the stomach, is used in diagnosing various gastric disorders. In the tubeless technique, an organic dye is swallowed. A color test of the urine indicates the presence or absence of acid. In the standard test, the patient swallows a tube, through which stomach contents are drawn.

In the new study, reported in the May 10 issue of the *Journal of the American Medical Association,* 114 patients were given the tubeless test, which was followed by a standard test.

There were seven false reactions with the tubeless test among 26 patients with kidney disease, and one false reaction among 39 patients with liver disease.

The tubeless test was accurate among patients with heart and circulatory disease, gastrointestinal disease, and such miscellaneous conditions as per-

(Continued on Page 90)

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1. Levy, S., *JAMA.*, 153:1260, 1953
2. Thompson, L., Procter R., *North Carolina M. J.*, 15:596, 1954
3. Thompson, L., Procter, R., *Clin. Med.*, 3:325, 1956

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BOOKS RECEIVED

Books received by CALIFORNIA MEDICINE *are acknowledged in this column. Selections will be made for more extensive review in the interests of readers as space permits.*

ANNUAL REVIEW OF MEDICINE—Volume 9—1958— David A. Rytand, Editor, and William Creger, Associate Editor, both from Stanford University School of Medicine. Annual Reviews, Inc., Palo Alto, 1958. 530 pages, $7.00, postpaid.

ATOMIC AGE AND OUR BIOLOGICAL FUTURE, THE —H. V. Brondsted—Translated by E. M. Huggard, Philosophical Library, New York. 80 pages, $2.75.

BEYOND HUMAN KNOWLEDGE—A Consideration of the Unexplained in Man and Nature—Rudolf von Urban, M.D. Pageant Press, Inc., 101 Fifth Avenue, New York, 1958. 254 pages, $5.00.

BLACKLOCK AND SOUTHWELL—A GUIDE TO HUMAN PARASITOLOGY FOR MEDICAL PRACTITIONERS—Sixth Edition—T. H. Davey, O.B.E., M.D. (Belf.), D.T.M. (Liver.), Professor of Tropical Hygiene, Liverpool School of Tropical Medicine. The Williams and Wilkins Company, Baltimore, 1958. 222 pages, 3 colored plates and 119 illustrations, $7.00.

CHEMISTRY AND BIOLOGY OF MUCOPOLYSACCHARIDES—Ciba Foundation Symposium—G. E. W. Wolstenholme, O.B.E., M.A., M.B., B.Ch. and Maeve O'Connor, B.A., Editors. Little, Brown and Company, Boston, 1958. 328 pages, 48 illustrations, $8.50.

CHOLESTEROL AS RELATED TO ATHEROSCLEROSIS—A Review of the Literature, 1950-July, 1957—Prepared by Helen I. Mattill, Ph.D., Department of Physiology, College of Medicine, State University of Iowa. Published by the Cereal Institute, Inc., 135 South LaSalle Street, Chicago 3, Illinois, 1958. 67 pages. No price listed.

ENDOCRINE PATHOLOGY OF THE OVARY—John McLean Morris, M.D., Associate Professor of Gynecology, Yale University School of Medicine; and Robert E. Scully, M.D., Clinical Associate in Pathology, Harvard Medical School, C. V. Mosby Company, St. Louis, 1958. 151 pages, 75 illustrations, $8.50.

EXTENT OF CANCER ILLNESS IN THE UNITED STATES, THE—By the Biometry Branch of the National Cancer Institute, Dr. Michael B. Shimkin, Chief of the Branch. Public Health Service Publication No. 547. For sale by the Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. 23 pages, 25c.

FAT CONSUMPTION AND CORONARY DISEASE: The Evolutionary Answer to This Problem—A Basic Approach to the Prevention and Arrest of Coronary Disease—T. L. Cleave, M.R.C.P. (Lond.), Surgeon Captain, Royal Navy. Philosophical Library, New York, 1958. 40 pages, $2.50.

HUMAN INFERTILITY—C. Lee Buxton, M.D., Med. Sc.D., Professor and Chairman, Department of Obstetrics and Gynecology, Yale University School of Medicine; and Anna L. Southam, M.D., Assistant Professor of Obstetrics and Gynecology, College of Physicians and Surgeons, Columbia University; with a chapter on Endometrial Diagnosis by Earl T. Engle, Ph.D., Professor of Anatomy, College of Physicians and Surgeons, Columbia University. Paul B. Hoeber, Inc., 49 East 33rd St., New York, 1958. 229 pages, $7.50.

LABORATORY MEDICINE—HEMATOLOGY—John B. Miale, M.D., Professor of Pathology, University of Miami School of Medicine, and Director of Clinical Pathology, Jackson Memorial Hospital, Miami. The C. V. Mosby Company, St. Louis, 1958. 735 pages, 192 illustrations and 9 plates, including 5 in color, $13.75.

MANUAL OF ELECTROTHERAPY, A—Arthur L. Watkins, M.D., Assistant Clinical Professor of Medicine, Harvard Medical School. Lea & Febiger, Philadelphia, 1958. 259 pages, $5.00.

MEDICAL MANAGEMENT OF CANCER, THE—Henry D. Diamond, M.D., F.A.C.P., Associate Attending Physician, The Medical Neoplasia Service of the Department of Medicine, The Memorial Center for Cancer and Allied Diseases; Associate and Section Head of the Lymphoma Section of the Division of Clinical Chemotherapy, The Sloan-Kettering Institute for Cancer Research; Assistant Professor of Clinical Medicine, Cornell University Medical College. Modern Medical Monographs No. 16, Grune & Stratton, New York, 1958. 179 pages, $6.75.

MEDICINE AND MAN—The Story of the Art and Science of Healing—Ritchie Calder—A Mentor Book Published by The New American Library, 501 Madison Ave., New York 22, 1958. 256 pages, 50c (Paper Bound Edition).

MENTAL HEALTH IN INDUSTRY—Alan A. McLean, M.D., Psychiatric Consultant, International Business Machines Corporation; and Graham C. Taylor, M.D., Allan Memorial Institute of Psychiatry, McGill University. McGraw-Hill Book Company, Inc., Blakiston Division, New York, 1958. 262 pages, $6.50.

NEOMYCIN—Its Nature and Practical Application— Selman A. Waksman, Editor. Published for The Institute of Microbiology, Rutgers University, by The Williams and Wilkins Company, Baltimore, Maryland, 1958. 412 pages, $5.00.

NEW AND NONOFFICIAL DRUGS, Containing Descriptions of Therapeutic, Prophylactic and Diagnostic Agents, evaluated by The Council on Drugs (Formerly, Council on Pharmacy and Chemistry) of the American Medical Association, 1958, an annual publication issued under the direction and supervision of the Council. J. B. Lippincott Company, Philadelphia, 1958. 645 pages, $3.35

ORAL SURGERY—Third Edition—Kurth H. Thoma, D.M.D. Professor of Oral Surgery (Emeritus), Harvard University. The C. V. Mosby Company, St. Louis, 1958. 1607 pages, 1824 illustrations, including 159 in color., $27.50.

OUR NUCLEAR ADVENTURE—Its Possibilities and Perils—D. G. Arnott. Philosophical Library, New York, 1958. 170 pages, $6.00.

PHARMACOLOGY IN MEDICINE — A Collaborative Textbook—Second Edition—Edited by Victor A. Drill, Ph.D., M.D., Lecturer in Pharmacology, Northwestern University Medical School. McGraw-Hill Book Company, Inc., Blakiston Division, New York, 1958. 1243 pages plus 30 pages of index, $19.50.

PHYSICAL DYNAMICS OF CHARACTER STRUCTURE—Bodily Form and Movement in Analytic Therapy —Alexander Lowen, M.D., Executive Director, Institute for Bioenergetic Analysis, New York. Grune and Stratton, New York, 1958. 358 pages, $7.75.

PSYCHOPATHOLOGY OF COMMUNICATION—Edited by Paul H. Hoch, M.D., and Joseph Zubin, Ph.D., New York State Psychiatric Institute; Columbia University. Proceedings of the 46th annual meeting of the American Psycho-Pathological Association, New York City, June, 1956. Grune and Stratton, New York, 1958. 305 pages, $6.75.

REGIONAL ILEITIS—2nd Revised Edition—Burrill B. Crohn, M.D., Consulting Gastroenterologist, Mount Sinai Hospital, New York, and Harry Yarnis, M.D., Associate in Medicine for Gastroenterology, Mount Sinai Hospital, New York, with special contributions by Richard H. Marshak, M.D., and David A. Turner, Ph.D. Grune & Stratton, Inc., 381 Fourth Ave., New York 16, N. Y. 1958. 239 pages, $7.25.

TREATMENT OF FRACTURES, THE—Volume III— Lorenz Bohler, M.D., Director of the Accident Hospital, Vienne XX, Professor of Accident Surgery, University of Vienna. Translated from the Thirteenth German Edition by Alfred Wallner, M.D. and Otto Russe, M.D. Grune & Stratton, New York, 1958. 2306 pages, $21.00.

YOU CAN INCREASE YOUR HEART POWER—Peter J. Steincroph, M.D., Doubleday & Company, Inc., Garden City, N. Y., 1958. 381 pages, $4.95.

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References: **1.** Welch, H.; Wright, W. W., and Staffa, A. W.: Antibiotic Med. & Clin. Therapy *5*:52 (Jan.) 1958. **2.** Carlozzi, M.: Ibid. *5*:146 (Feb.) 1958. **3.** Shalowitz, M.: Clin. Rev. *1*:25 (April) 1958. **4.** Stone, M. L.; Bamford, J., and Bradley, W.: Antibiotic Med. & Clin. Therapy *5*:322 (May) 1958. **5.** Cornbleet, T.; Chesrow, E., and Barsky, S.: Ibid. *5*:328 (May) 1958. **6.** West, R., and Clarke, D. H.: J. Clin. Invest. *17*:173 (March) 1938. **7.** Jimenez-Diaz, C.; Aguirre, M., and Arjona, E.: Bull. Inst. M. Res. Madrid *6*:137 (Oct.-Dec.) 1953. **8.** Lerman, S.; Pogell, B. M., and Lieb, W.: A.M.A. Arch. Ophth. *57*:354 (March) 1957.

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Regular programs in the series will be aired from 7:30 to 7:45 a.m., Monday through Friday, on radio station KROW (960 kc) and from 5:30 to 6 p.m., Monday through Thursday, on KQED, the San Francisco educational television station.

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—*A.M.A. Secretary's Letter*

Tubeless Gastric Analysis Gives Few False Reactions

(Continued from Page 86)

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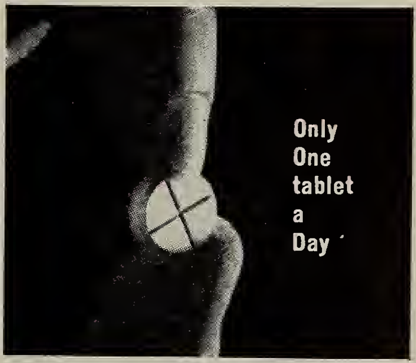

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References: 1. Grieble, H. C. and Jackson, G. G.: Prolonged Treatment of Urinary-Tract Infections with Sulfamethoxypyridazine. *New England J. Med.* 258:1-7, 1958. 2. Editorial *New England J. Med.* 258:48-49, 1958. 3. Jones, W. F., Jr. and Finland, M.: Sulfamethoxypyridazine and Sulfachloropyridazine. *Ann. New York Acad. Sc.* 60:473-483, 1957.

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CLASSIFIED ADVERTISEMENTS

(Continued from Page 82)

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Minor Decreases in Work Load May Cause Obesity

Using a standard typewriter instead of an electric typewriter could be the difference between staying thin and gaining weight.

So could the use of a standard steering wheel instead of power steering, walking instead of driving, playing golf instead of gardening, just standing up instead of sitting down, and many other "seemingly insignificant differences" in daily habits.

The difference lies in the amount of energy needed for each activity, according to an article in the May 10 issue of the *Journal of the American Medical Association.*

The basic cause of obesity is an intake of calories in excess of the needs of the body. Small increases in the amount of food eaten and small decreases in the work output of the body—as when a person switches to an electric typewriter—can over a period of time be responsible for overweight, the authors said.

Dr. Herbert Pollack, New York, and C. Frank Consolazio, A.B., and Gerhard J. Isaac, A.B., Denver, prepared the article for the A.M.A. Council on Foods and Nutrition.

They pointed out that each person has a "basal caloric requirement"—the number of calories needed to just stay alive—based on his age and the surface area of his body as measured in square meters. In addition, the calorie expenditure per square meter of body surface for any activity can be figured.

It's a rather complicated procedure, but it has been determined, for instance, that there is a difference of almost nine calories an hour for each square meter of body surface between sitting quietly and standing quietly.

The differences in the caloric expenditure per square meter of body surface between lying down, sitting, standing quietly, and standing while moving in a limited area "do not appear large, but when multiplied by the total minutes during the day, they loom large," the authors said.

If an individual fails to reduce his caloric intake as he ages and decreases his activity, he will gain weight.

For instance, this could happen to a typist who switches typewriters—over a long period of time, of course. A girl who is five feet, three inches tall and weighs 120 pounds used 87.7 calories per hour typing on a standard typewriter, but only 72.9 calories with an electric typewriter. For a five-day week the saving amounts to 450 calories; in 10 weeks this can be the equivalent of a pound of body weight provided her food intake is constant, the authors said.

They concluded, "The importance of the calorie expenditure factor in the development of moderate obesity in the adult should not be minimized."

cont. on page 461

IT PAYS TO BE HEALTHY—A World-Renowned Physician Guides You to Success, Happiness and Health in Your Work—Robert Collier Page, M.D., F.A.C.P. Prentice-Hall, Inc., Englewood Cliffs, N. J., 1957. 285 pages, $4.95.

This book appears to be addressed to business executives. It is written in a forceful, aggressive style. It is positive, vigorous and decisive, with no suggestion of false humility. It may be assumed that Dr. Page knows that this is the effective approach to the readers whom he addresses. He has had a long and successful career as a physician in industry.

The principal theme expressed in the opening chapter, "The successful man is also a man who will turn down a promotion if he is not promotion material, and herein is a moral for everyone of us who thinks of life as more than just a struggle to earn a living," is reiterated in varied forms. There are a number of case histories, most of them showing the bad ends people come to when they climb to positions which are beyond their capacities, or when they neglect medical advice.

There is considerable emphasis upon self-analysis as a way to avoid or correct "situational states" and functional disorders. One wonders whether the people who most need it can carry out such introspection, and whether this introspection is beneficial to those who are able to apply themselves to it. Headaches, obesity, alcoholism, psychiatric problems, "ulcers—the service badge of competition," cancer and heart disease are discussed, sometimes in over-optimistic terms. There is an excellent chapter on choosing the physician, and how to get along with him. Vocational rehabilitation is given sympathetic and understanding discussion. The problems of retirement from work are stated well, and definite advice on preparation for them is given.

It is somewhat disappointing that, although the author expresses enthusiasm for "constructive medicine," he does not emphasize constructive health practices. His admonitions are mostly negative: Don't work too hard, don't eat too well, don't drink too much. There is an extended list of foods to avoid, if one would evade obesity, but only generalizations about an adequate diet. Adequate rest, recreation, and exercise are given a few words in the opening chapter, but subsequently glossed over.

Dr. Page also gives a view from the inside of U. S. business operations, which is illuminating though ambiguous. He writes at one stage of "the kid-glove jungle" emphasizing the coldly competitive attitudes encountered with great frequency (if he is to be believed). In another place he gives the assurance that business managements are generally ready to judge people on their individual merits and to treat them accordingly. A very distressing feature is his own failure to express any indignation about a particularly vicious example of corporate irresponsibility described in one of his case reports. If interpersonal competition is as ruthless as he indicates, it is time for a moral evaluation. He recommends the thoughtful reconsideration of the true interests of the individual, and decision as to the worth of the rewards won through bitter competition. This is a step in the right direction.

* * *

THE ROAD TO INNER FREEDOM—The Ethics—Baruch Spinoza. The Philosophical Library, 15 East 40th St., New York 16, N. Y., 1957. 215 pages, $3.00.

It is rather presumptuous to review this remarkable book, a sampling by the editor from Spinoza's "Ethics" from a medical standpoint, since to isolate certain details from its panorama is to do great injustice. However, one can be comforted by remembering that Spinoza has withstood far worse.

This work, except in style, is frighteningly modern and scientific—frightening in that what was written hundreds of years ago is still new, exciting, and not yet accepted by many trained in scientific disciplines. It suggests that man is worthwhile insofar as he reasons and questions, insofar as he does not prematurely accept an answer—any answer—merely to allay his anxiety, that man's hope for the future is reasoning curiosity (though not intellectualization), that men "should come at last to live under the dominion of their own reason." The concept of psychic determinism which Freud so vigorously demonstrated, that ideas and emotions are not the result of spontaneous generation but result from ascertainable causes (biological and psychological) is essential to Spinoza's thought. "In the mind there is no absolute or free will; but the mind is determined to wish this or that by a cause, which has also been determined by another cause, and this last by another cause and so on to infinity." It is this pressing on to follow the observable facts wherever they may lead that separates the scientist from the scientific technician, no matter how brilliant a technician. The scientist will not lay off because what he finds as he follows his work is not what he expected or what he wanted or what he would be praised for. The "disturbers of the world's sleep," Copernicus and Galileo, Darwin, Freud, and the others who have found themselves unable to compromise their observations for inner and external expediency, have tested Spinoza's epistemology and have indeed disturbed—perturbed—us.

Spinoza's attitude toward psyche—"I regard human emotions and their properties as on the same footing with other natural phenomena"—was a revolutionary statement in his day, and there are many today who would like to burn him at the stake if they could only lay hands on him. How reminiscent is his statement that men should "come at last to live under the dominion of their own reason" to Freud's feeling that where Id was there shall Ego be. Or consider the quality of insight, a goal of psychoanalysis and other forms of education, a quality which only the human animal possesses to any degree and then rarely is able to use; for Spinoza, as for the psychoanalyst, to harness the emotions, especially the unconscious sources, becomes a method of capturing some degree of free will and thus a little freedom from the scarcely controlled passion of the primary process. "An emotion comes under our control, and the mind is less passive in respect to it, in proportion as it is more known to us." Fundamentals of human thought and behavior—the pleasure-pain principle, the reality principle, man as a social animal, man's need to falsify observations with undemonstrable abstractions, the myth of man as the center of the universe, or even master of his own ship, symbolization, condensation, abstract thought, disturbances in interpersonal communication—all of these chapters in the psychiatric textbook were comprehended long before the present era of psychiatry.

It should be gratifyingly disturbing for those interested in psychological medicine to sample Spinoza's genius in this small and powerful book.

Robert J. Stoller, M.D

* * *

THE PETER T. BOHAN MEMORIAL LECTURES ON MEDICINE—First Series—University of Kansas Press 1957. Date of Publication: December 30, 1957. $3.00, 128 pages.

This collection of seven lectures by eminent clinicians is put together as a labor of love by Dr. Bohan's former students and by admiring physicians. Handsomely gotten up, well printed on fine paper, the lectures are all of interest, if not of equal profoundness. Some of the contributors are R. L. Haden, W. C. Alvarez, J. T. King and P. D. White.

Arthur L. Bloomfield, M.D.

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KEY TO ABBREVIATIONS USED

(Or.)—Original Article; (Ed.)—Editorial; (CMA)—California Medical Association; (CR)—Case Report; (I)—Information; (LE)—Letters to the Editor; (MJ)—Medical Jurisprudence.

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